ORDER NO. VRD-8203-059

Service Manual

Video Cassette Recorder

Panasonic
Omnivision II VHS

NV-8950

Vol. 1	**Vol. 2**	**Vol. 3**	**Vol. 4**	**Vol. 5**
Summary *Operating Instructions* *Circuit Descriptions*	*Mechanical Adjustment Procedures* *Electrical Adjustment Procedures*	*Block Diagrams*	*Schematic Diagrams* *Circuit Board Diagrams*	*Exploded Views* *Replacement Parts Lists*

VHS

Panasonic®

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Vol. 1

Summary
Operating Instructions

SPECIFICATIONS

Power Source: 120V AC, 60Hz
Power Consumption: Approx. 77 watts
Television System: EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Color signal: converted subcarrier phase shift recording
Audio Track: 2 tracks
Tape Format: Tape width 1/2 inch (12.7mm), high density tape
Tape Speed: SP/1-5/16 i.p.s. (33.35mm/s), SLP/7/16 i.p.s. (11.12mm/s)
Record/Playback Time: 360 min. with NV-T120 used in SLP mode
FF/REW Time: Less than 6 min. with NV-T120
Heads: Video: 4 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
2 audio track erase for audio dubbing
Input Level: Video: Tuner Connector
1.0Vp-p, 75Ω unbalanced
Camera Input Terminal
1.0Vp-p, 75Ω unbalanced
VIDEO IN connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: Tuner Connector
−16dB, 5kΩ unbalanced
Camera Input Terminal
−20dB, 50kΩ unbalanced
MIC IN jack × 2
−70dB, 47kΩ unbalanced
LINE IN jack (RCA) × 2
−20dB, 50kΩ unbalanced

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: LINE OUT jack (RCA) × 2
−9dB, 1kΩ less unbalanced
AUDIO MONITOR OUT jack (RCA) −9dB, 1kΩ less unbalanced
RF Modulated: Channel 3 or 4
67dBμ (open voltage),
75Ω unbalanced
Video Horizontal Resolution (on monoscope test pattern): Color/Monochrome: more than 240 lines
Audio Frequency Response: 50Hz ~ 10kHz in SP mode
Signal-to-Noise Ratio: Video: better than 45dB (Rohde & Schwarz noise meter)
Audio: better than 48dB (Dolby NR-IN)
Operating Temperature: 41°F ~ 104°F (5°C ~ 40°C)
Operating Humidity: 35% ~ 80%
Weight: 36.3 lbs. (16.5kg)
Dimensions: 17-3/4″(W) × 6-5/8″(H) × 16-13/16″(D)
450(W) × 168(H) × 426(D) mm

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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INTRODUCTION

The Service Manual contains all the technical information service technicians will need to understand and service the Omnivision VHS video cassette recorder model NV-8950.

The NV-8950 incorporates the latest and most advanced video recorder features, including 2- and 6-hour recording modes, front loading, a noise-free picture in all playback modes, Dolby NR*, quick program selection, microprocessor-controlled electronic tuning with soft touch push button controls, remaining-tape and end-of-recorded-selection indicators, plus full-function infrared wireless remote control.

These features, in addition to the basic VHS format, make the NV-8950 an ideal unit for business, education, entertainment, and sales and training applications.

Just slightly ahead of our time ...

Panasonic

FEATURES

Extending recording and playback

The unit can record and play back up to 6 hours on a single NV-T120 tape, and up to 8 hours on the new longer playing NV-T160 tape.

Multi-motion playback without picture disturbance

In addition to normal playback, the unit is able to play back at many speeds.

SEARCH FORWARD	forward at 8 times normal speed for tapes recorded in SLP mode
	forward at 4 times normal speed for tapes recorded in SP mode
SEARCH REVERSE	at 8 times normal speed in reverse for tapes recorded in SLP mode
	at twice normal speed in reverse for tapes recorded in SP mode
STILL-PICTURE (FIELD)	to view single still-picture (field)
FRAME ADVANCE	to move picture forward one frame
VARIABLE SPEED	from a still-picture—to a maximum range of twice normal speed
SLOW REVERSE	from a still-picture—to 1/10 or 1/3 of normal speed in reverse

Wireless remote control for arm chair convenience

The remote control allows the following VCR functions.

- RECORD
- PLAY
- SEARCH FORWARD
- SEARCH REVERSE
- PAUSE/STILL
- FRAME ADVANCE
- VARIABLE SPEED
- SLOW REVERSE (1/10 only)
- FAST FORWARD
- REWIND
- CHANNEL CHANGE
- STOP

INDEX SELECT Buttons

Every time recordings take place, this unit records the position at which the recording started onto the tape. Up to 99 positions can be indexed on one video cassette tape. The INDEX SELECT Buttons searches the desired recording start point and start playback immediately.

BLANK DETECT Button

This button searches any blank (unrecorded part of the tape extending for 14 seconds in the fast forward mode, about 3 minutes in the SP mode, or about 9 minutes in the SLP mode) during recording or playback. The tape is then brought to the start of the blank portion.

REMAINING TIME Button

When this button is pushed during recording and normal playback, the numerals on the Tape Counter disappear and the remaining tape time is indicated.

Video Add Function

The unit eliminates the editing problem common to previous VCRs. When the Pause/Still Button is pushed during recording, the tape will automatically rewind a little. This reduces to a minimum any interference caused by pauses during recording.

Stereophonic sound

Two audio tracks permit recording from two microphones, pre-amplified stereo phonograph, etc. for playback in stereo sound, or for bilingual source material.

Camera Input Terminal

A camera with a power consumption of less than 8.8 W can directly be connected this terminal.

Dolby NR circuitry

This VCR can be operated with Dolby NR. Dolby NR is a noise reduction system which greatly suppresses background noise in the audio signal caused by the tape. Dolby NR circuitry enables you to retain a good sound quality.

*'Dolby' and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.

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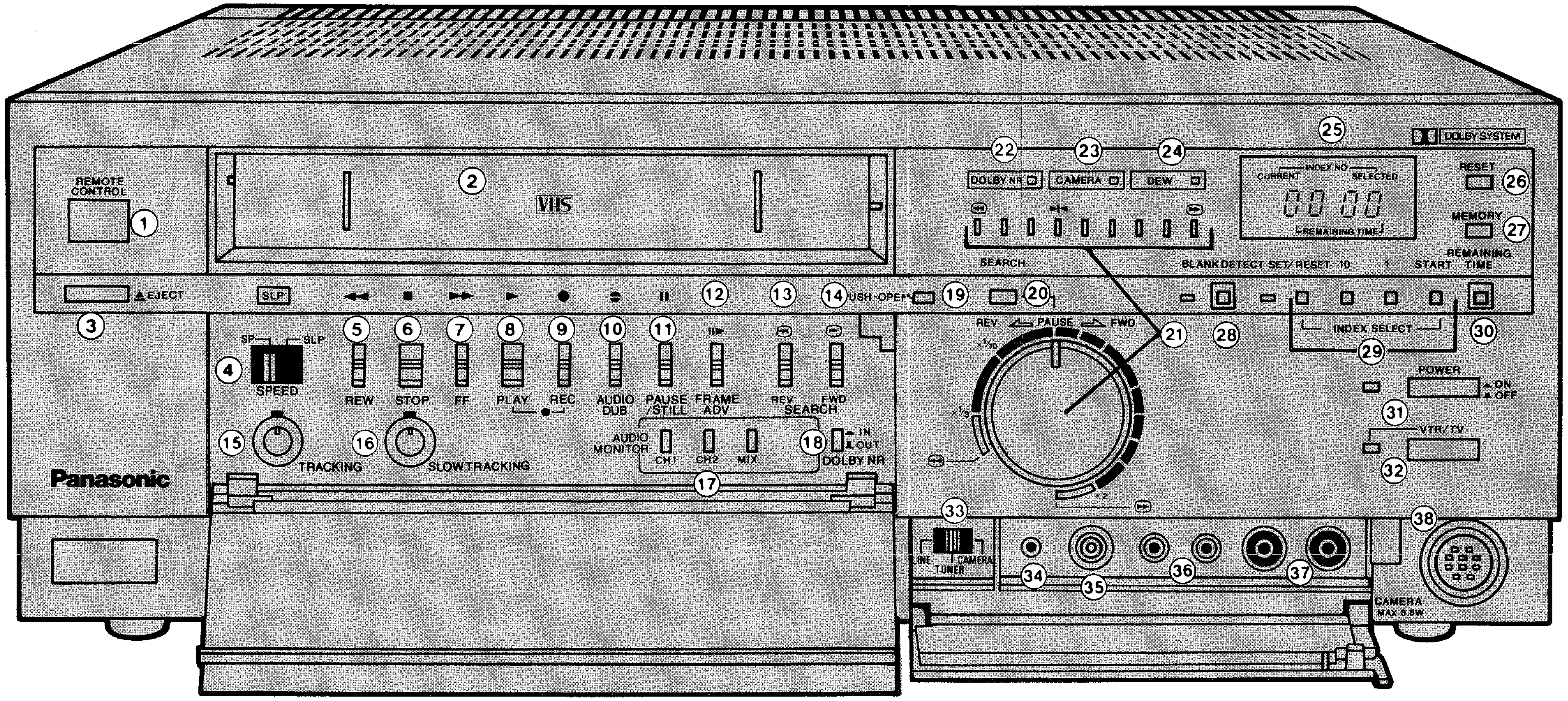
CONTROLS AND COMPONENTS

FRONT


REMOTE CONTROL
VHS
DOLBY NR
CAMERA
DEW
DOLBY SYSTEM
INDEX NO
CURRENT
SELECTED
00 00
REMAINING TIME
RESET
MEMORY
REMAINING START TIME
SEARCH
BLANK DETECT SET/RESET
10
1
EJECT
SLP
PUSH-OPEN
REV
PAUSE
FWD
x1/10
x1/5
x2
INDEX SELECT
POWER
ON
OFF
VTR/TV
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR
TRACKING
SLOW TRACKING
Panasonic
LINE
TUNER
CAMERA
CAMERA MAX 8.8W
1
2
3
4
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6
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38

① **Remote Control Sensor**—receives signal from Wireless Remote Control.

② **Cassette Holder**—for insertion of a video cassette.

③ **Eject Button**—for removing the cassette.

④ **Tape Speed Selector**—with "SLP" indicator lamp for selecting the tape speed for recording.

⑤ **Rewind Button**—with indicator lamp for winding the tape backward.

⑥ **Stop Button**—with indicator lamp for stopping the tape.

⑦ **Fast Forward Button**—with indicator lamp for winding the tape forward.

⑧ **Play Button**—with indicator lamp for playback.

⑨ **Record Button**—with indicator lamp for recording.

⑩ **Audio Dub Button**—with indicator lamp for sound re-recording.

⑪ **Pause/Still Button**—with indicator lamp for a temporary halt of recording and for obtaining still-picture (field) playback.

⑫ **Frame Advance Button**—for advancing a still-picture (field) picture frame by frame.

⑬ **Search Reverse Button**—for playback at twice or 8 times normal speed in reverse.

⑭ **Search Forward Button**—for playback at 4 or 8 times normal speed.

⑮ **Tracking Control**—When playing prerecorded tapes or those recorded on other units and when distortion (noise) appears on your TV screen, rotate this control slowly in either direction until the picture clears up. It should usually be left in the center position.

⑯ **Slow Tracking Control**—for use with multi-motion playback.

⑰ **Audio Monitor Channel Buttons**—for selecting which audio channel is monitored during recording and playback on the TV or through Audio Monitor Output Jack and RF Converter.

CH1: Audio channel 1 can be monitored.
CH2: Audio channel 2 can be monitored.
MIX: Mixed sound from both channel 1 and channel 2 can be monitored.

⑱ **Dolby NR Switch**—for turning on and off the Dolby NR noise reduction system during recording and playback.

⑲ Push-button for opening the front cover.

⑳ **Search Button**—for starting and stopping "Variable Speed" or "Slow Reverse" playback, see page 10.

㉑ **Play Speed Controller**—with indicator lamps for controlling "Variable Speed" or "Slow Reverse" playback.

㉒ **Dolby NR Indicator Lamp**—lights up when the Dolby NR Switch is set to "IN".

㉓ **Camera Input Indicator Lamp**—lights up when the Input Signal Selector is set to "CAMERA".

㉔ **Dew Indicator Lamp**—lights up when the unit is shut off because the operating conditions are too damp.

㉕ **Tape Counter**
Remaining Time Indicator—see page 17.
Index No Indicator—see page 15.
Memory Indicator—"M" is indicated when the Memory Switch is ON.

㉖ **Reset Button**—for setting the counter to "0000".

㉗ **Memory Switch**—for automatic tape stop when the counter reaches "9999" in the rewind and fast forward modes.

㉘ **Blank Detect Button**—with indicator lamp for detecting blanks.

㉙ **Index Select Buttons**—for searching the desired recording start point and starting playback automatically.

㉚ **Remaining Time Button**—with indicator lamp for checking remaining time on the tape.

㉛ **Power Switch**—with indicator lamp for turning the unit on and off.

㉜ **VTR/TV Selector**—with "VTR" indicator lamp for selecting which signal is to be viewed on the TV.
"VTR"—for playback of the video recording or monitoring of recording.
"TV" —for normal TV viewing or viewing one broadcast while recording another.

㉝ **Input Signal Selector**—for selecting the input signal to be recored.
LINE: To make a recording using the VIDEO IN, AUDIO IN and MIC Jacks.
TUNER: To record a TV program with the Tuner.
CAMERA: To make a recording with using a video camera which is connected to the Camera Input Terminal.

㉞ **Camera Remote Control Jack**—for connecting a remote control cable of a video camera.

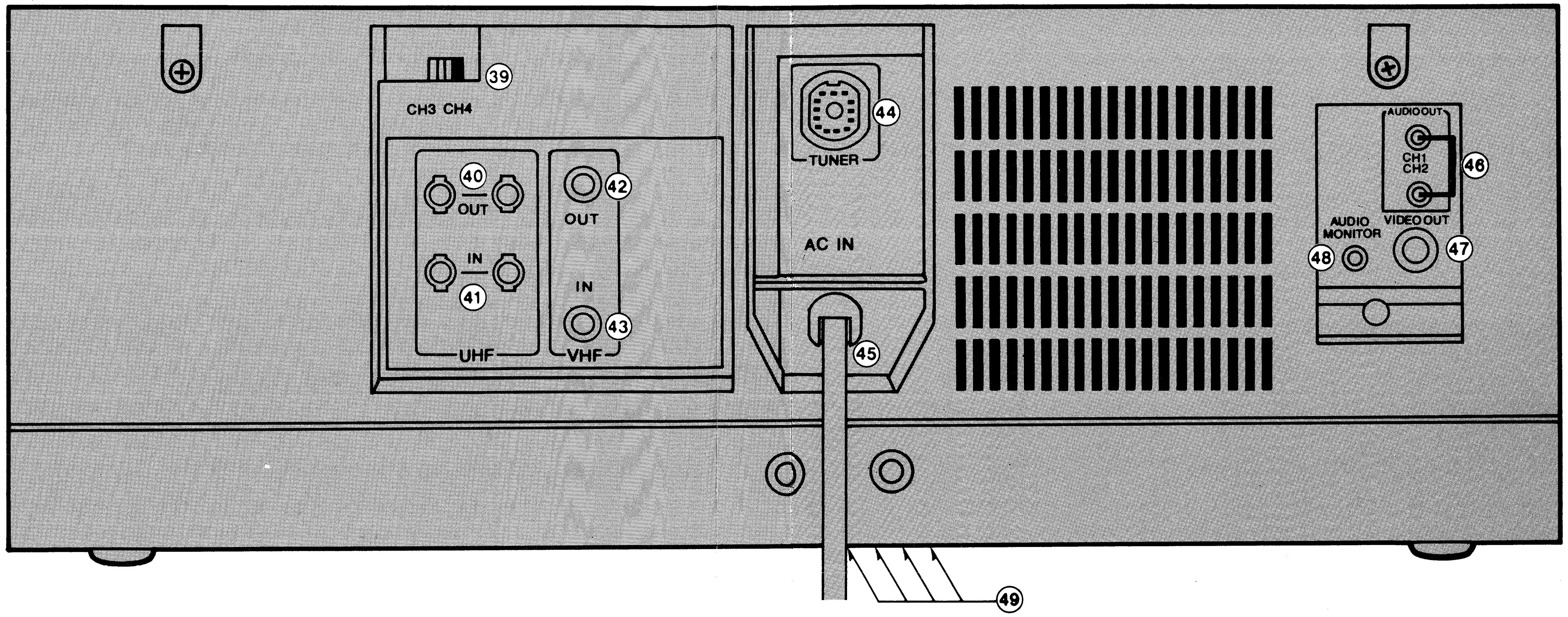
㉟ **Video Input Jack**—for connecting a video cable of a video camera or an output video signal of another VCR.

㊱ **Audio Input Jacks, Channel 1 (CH 1) and 2 (CH 2)**—for connecting an audio cable of a video camera, a component audio system, or another VCR.

㊲ **Microphone Input Jacks, Channel 1 (CH 1) and 2 (CH 2)**—for connecting a microphone.

㊳ **Camera Input Terminal**—for connecting a video camera.
CAUTION: This terminal is only for a video camera with a 10-pin cable and a power consumption of less than 8.8 W (for instance, the Panasonic WV-3110 or WV-3160). When a camera with a power consumption of over 8.9 W is connected (older model), the unit may develop machanical difficulties. Such a camera should never be connected.

BACK



(39) **RF Converter Channel Selector**—for switching the built-in RF converter between channel 3 and 4.

(40) **UHF Antenna Output Connectors**—for connecting the cable (supplied) to the UHF IN jack of the TV set.

(41) **UHF Antenna Input Connectors**—for connecting the unit to the UHF antenna.

(42) **VHF Antenna Output Connector**—for connecting the cable (supplied) to the VHF IN jack of the TV set.

(43) **VHF Antenna Input Connector**—for connecting the unit to the VHF antenna.

(44) **Tuner Connector**

(45) **AC Power Cord**—for connecting the unit to an electric outlet.

(46) **Audio Output Jacks, Channel 1 (CH 1) and 2 (CH 2)**—for connecting an audio cable of a TV monitor, a component audio system, or another VCR.

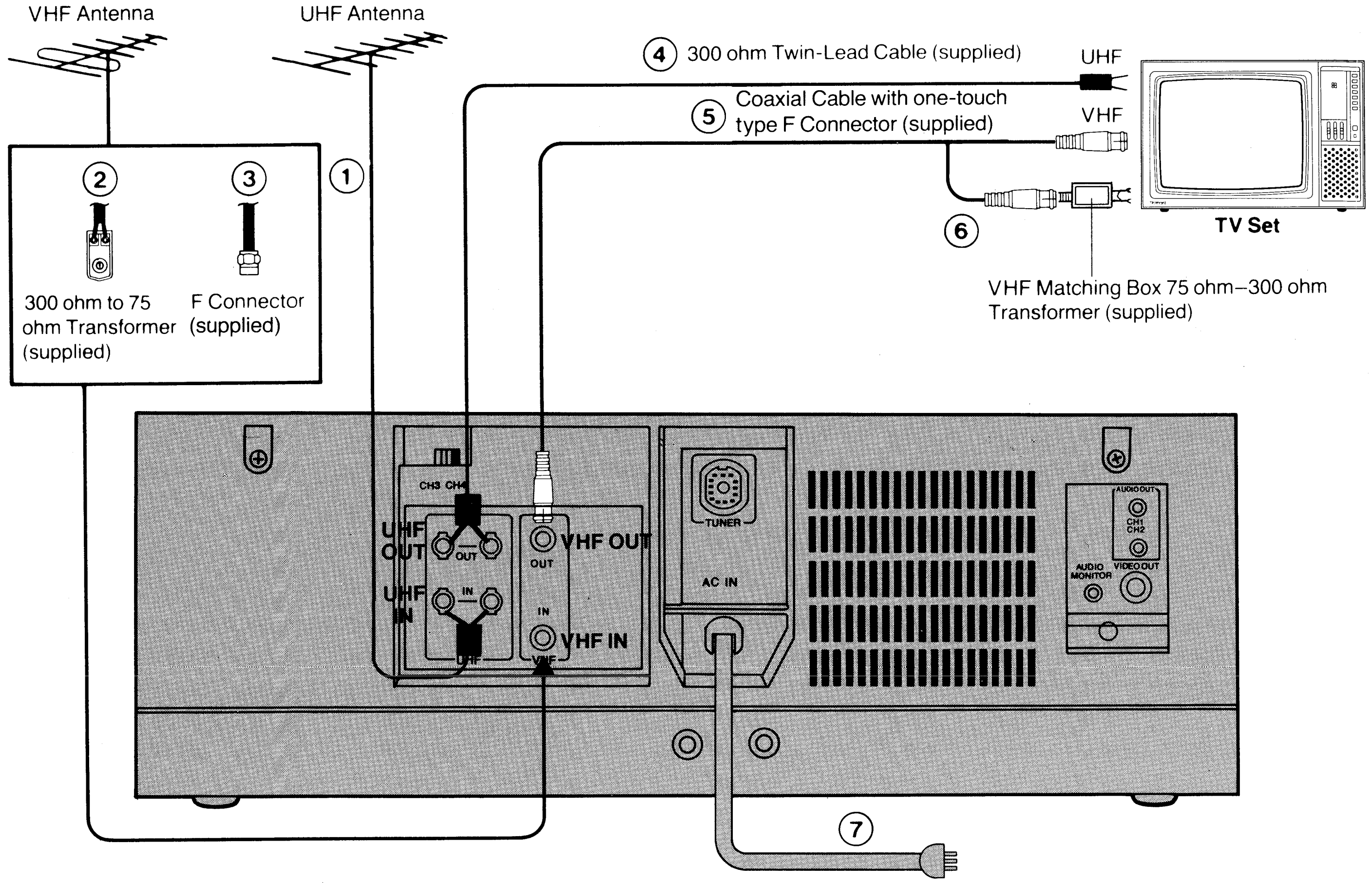
(47) **Video Output Jack**—for connecting a video cable to a TV monitor etc.

(48) **Audio Monitor Output Jack**—for connecting an audio cable of a TV monitor to allow monitoring of channel 1, channel 2, or mixed audio, by pushing the Audio Monitor Channel Buttons.

(49) **Vertical Lock Adjusters (on the bottom)**—for correcting the vertical jitter which may be caused, during multi-motion playback, as a result of the connections between the VCR and the TV set. Make the adjustment by using a flat-tip screwdriver or similar tool.
- ●It is recommended that the adjustment be done by a qualified technician.

INSTALLATION

The VCR requires connections to both UHF and VHF antennas and the TV set.


VHF Antenna
UHF Antenna
④ 300 ohm Twin-Lead Cable (supplied)
UHF
⑤ Coaxial Cable with one-touch type F Connector (supplied)
VHF
TV Set
⑥
VHF Matching Box 75 ohm–300 ohm Transformer (supplied)
②
③
①
300 ohm to 75 ohm Transformer (supplied)
F Connector (supplied)
CH3 CH4
UHF OUT
UHF IN
VHF OUT
VHF IN
TUNER
AC IN
AUDIO MONITOR
VIDEO OUT
⑦

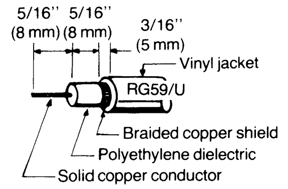
① Connect your UHF antenna to the rear of the unit as shown.

② If you use 300 ohm twin-lead (flat) cable from your VHF antenna, use the 300 ohm–75 ohm transformer as shown to connect to the VHF Input of the unit.

③ If you use 75 ohm coaxial cable from your VHF antenna, connect it to the rear of the unit as shown.
If your 75 ohm coaxial cable does not use an "F" type connector, you can install one yourself by using the included "F" connector.

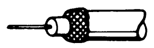
How to attach a male "F" connector to RG59/U type coaxial cable with braided copper shield.

1. Prepare the end of coaxial cable as shown.

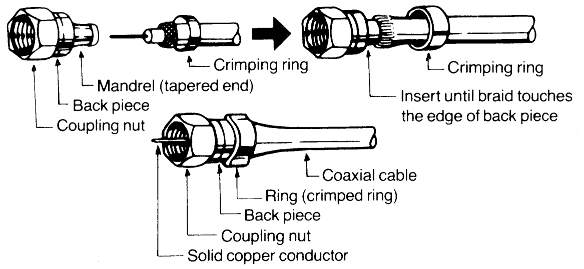

5/16" 5/16"
(8 mm) (8 mm)
3/16"
(5 mm)
Vinyl jacket
RG59/U
Braided copper shield
Polyethylene dielectric
Solid copper conductor

The length of the solid copper conductor, polyethylene dielectric and braid shield should be measured and cut carefully.

2. Fold back the copper braid shield over the outer jacket, next, trim off the shield close to outer jacket.



3. Slide the crimping ring supplied with "F" connector over the cable and place connector on cable inserting the mandrel (tapered end) of "F" connector between the braid shield and the dielectric material of coaxial cable, forcing it in until the braid is touching the back piece of connector.


Crimping ring
Mandrel (tapered end)
Back piece
Coupling nut
Crimping ring
Insert until braid touches the edge of back piece
Coaxial cable
Ring (crimped ring)
Back piece
Coupling nut
Solid copper conductor

Move the crimping ring up to the back piece of the connector and crimp the ring securely with pliers.

- The bare solid copper conductor extend at least 1/8" (3.17 mm) beyond front of connector.
- After crimping the ring make sure that the connector cannot be pulled out of the coaxial cable.

④ Use the supplied 300 ohm twin-lead cable to connect the unit to UHF Input of your TV.

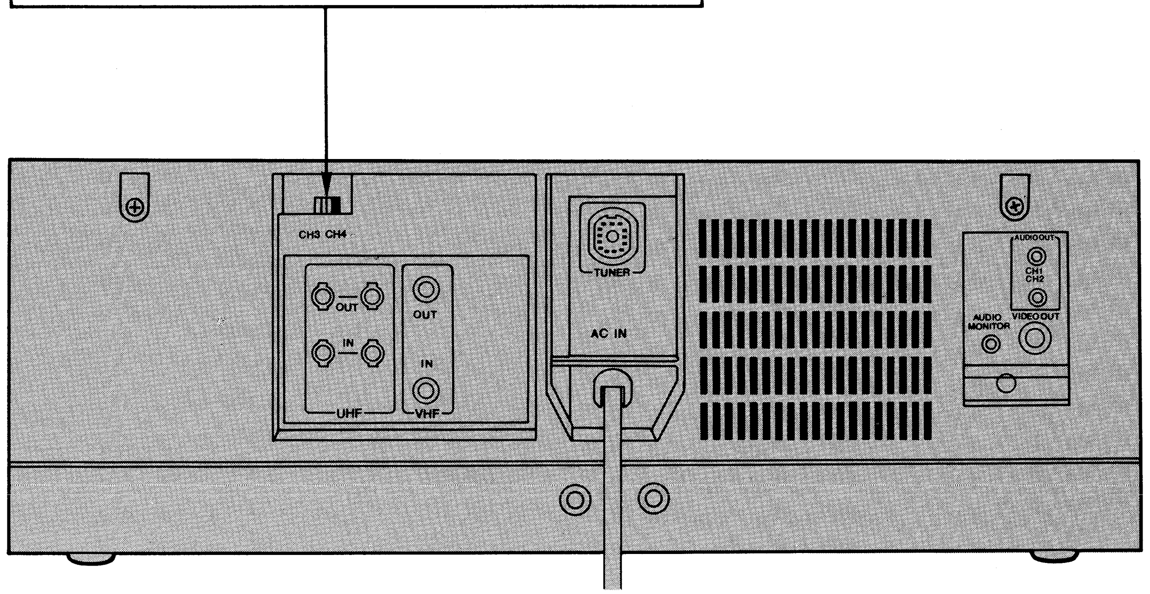
⑤ Use the supplied coaxial cable with one-touch type F connector to connect the unit to VHF Input of your TV.

⑥ If your TV does not have a 75 ohm VHF Input, use the VHF matching box 75 ohm–300 ohm transformer.

⑦ Plug the unit into an AC 120 V 60 Hz electrical outlet.

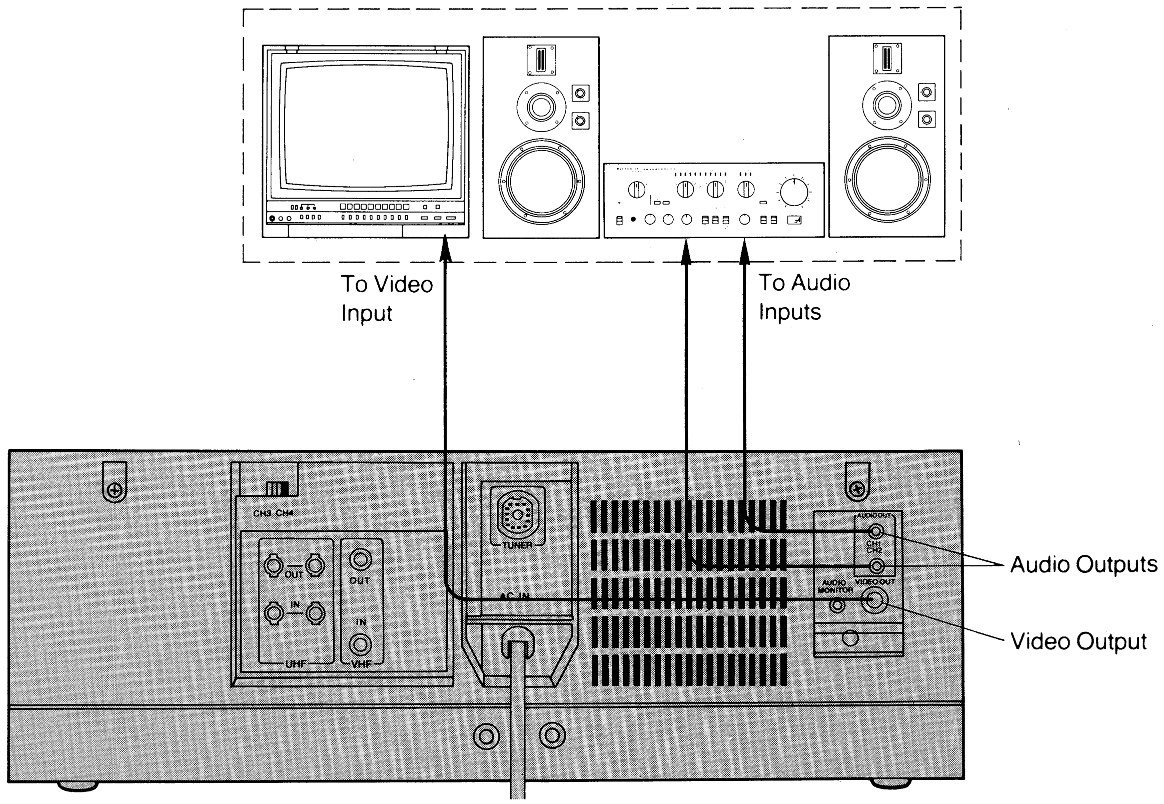
RF Converter

The built-in RF Converter allows playback of video tapes and monitoring of recordings on your TV. Select channel 3 or 4 whichever is not used in your area. If both are used, select the weaker channel of the air. The unit will override unwanted signals when in the PLAY mode. Remember, your TV must be tuned to the channel you select on the unit.


CH3 CH4
OUT
IN
UHF
VHF
TUNER
AC IN
AUDIO OUT CH1 CH2
AUDIO MONITOR
VIDEO OUT

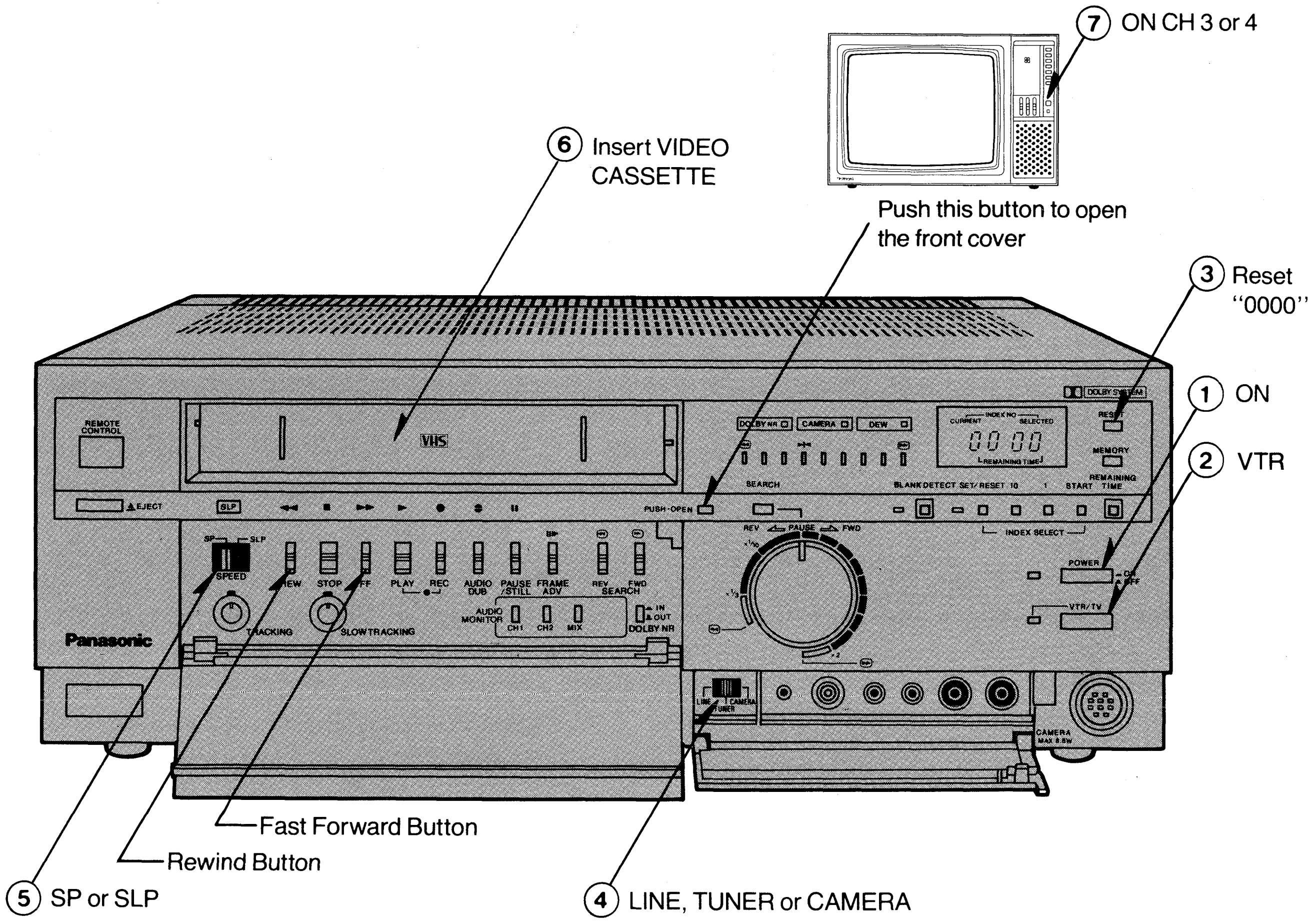
CONNECTION OF THE UNIT WITH A TV MONITOR

TV monitor and pre-amplified stereo phonograph


To Video Input
To Audio Inputs
Audio Outputs
Video Output
CH3 CH4
UHF
VHF
TUNER
AC IN
AUDIO MONITOR
VIDEO OUT

BASIC OPERATION

To prepare for recording and playback:


⑦ ON CH 3 or 4
⑥ Insert VIDEO CASSETTE
Push this button to open the front cover
③ Reset "0000"
① ON
② VTR
Fast Forward Button
Rewind Button
⑤ SP or SLP
④ LINE, TUNER or CAMERA
Panasonic
REMOTE CONTROL
EJECT
SLP
VHS
SPEED
TRACKING
SLOW TRACKING
PLAY
REC
STOP
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR
PUSH-OPEN
DOLBY SYSTEM
CAMERA
DEW
RESET
MEMORY
REMAINING START TIME
BLANK DETECT SET/RESET 10 1
INDEX SELECT
POWER
ON
OFF
VTR/TV
PAUSE
CAMERA MAX 8.5W

① Slide POWER Switch into the "ON" position.

② Set VTR/TV Selector to "VTR".
The corresponding lamp will light up.
- It is not necessary to switch this selector for playback.

③ Reset TAPE COUNTER to "0000" by pressing RESET Button.

④ Set INPUT SIGNAL Selector to proper position.
"LINE": To make a recording using the VIDEO IN, AUDIO IN and MIC Jacks.
"TUNER": To record a TV program with the Tuner.
"CAMERA": To make a recording using a video camera which is connected to the Camera Input Terminal.

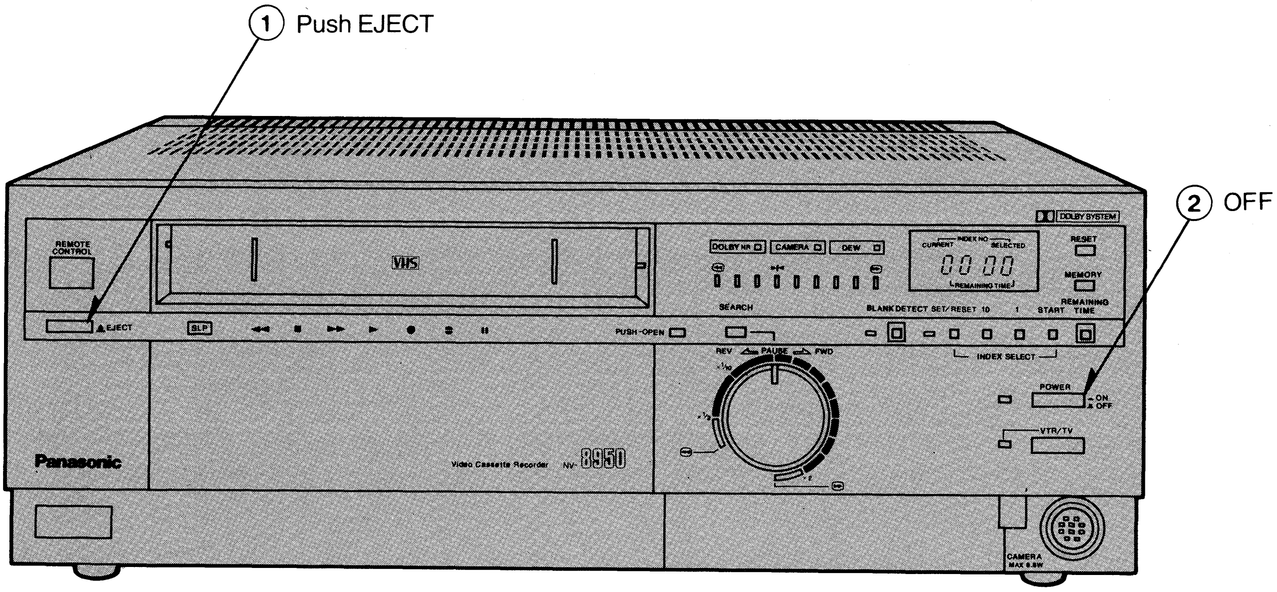
⑤ Set TAPE SPEED Selector to "SP" or "SLP". "SLP" indicator lamp will light up if "SLP" is selected. This lamp will also light up when the tape recorded in SLP mode is played.

⑥ Push in the video cassette with the window side facing up and the printed arrow pointing away from you and press with your finger until it is pulled inside.
- The cassette can be loaded only when the VCR is powered. Do not force the cassette into the cassette holder with the power off.
- Whenever the cassette is loaded, the Stop Button Lamp lights up (with the power on). Before trying to insert the cassette into the cassette holder, check that the Stop Button Lamp is off to make sure the cassette holder is empty.

⑦ Turn the TV ON and select CHANNEL 3 or 4 to match the setting of the unit's RF Converter Channel Selector.

- To wind the tape forward, push FAST FORWARD Button.
- To wind the tape backward, push REWIND Button.

After you finish recording or playback:



① Push EJECT

② OFF

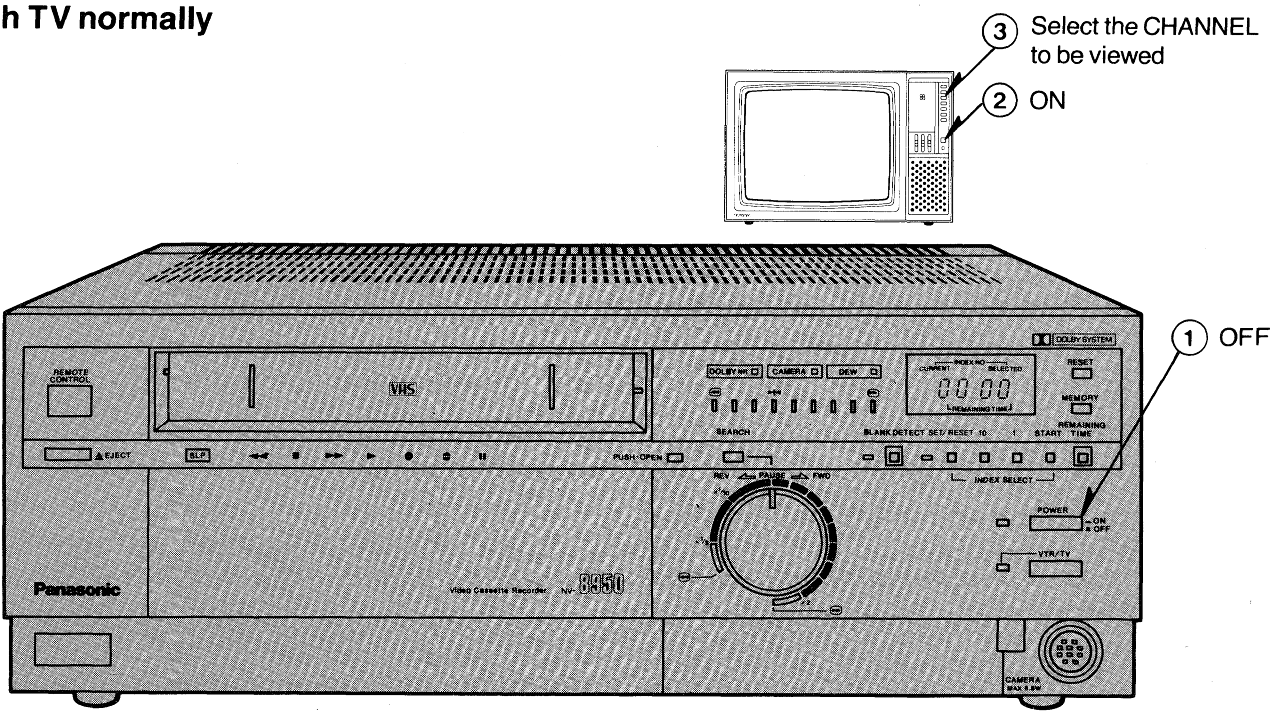
REMOTE CONTROL
EJECT
SLP
VHS
DOLBY NR
CAMERA
DEW
SEARCH
PUSH-OPEN
REV
PAUSE
FWD
POWER
ON
OFF
VTR/TV
INDEX SELECT
RESET
MEMORY
REMAINING TIME
Panasonic
Video Cassette Recorder NV-8950
CAMERA

① Push EJECT Button, remove VIDEO CASSETTE.
- Make a habit of fully rewinding the tape by pushing the REWIND Button before "Eject". This will prevent the tape from being damaged.

② Turn VCR and TV OFF.

When the tape reaches its end, the tape will be rewound automatically.

To watch TV normally



③ Select the CHANNEL to be viewed

② ON

① OFF

REMOTE CONTROL
EJECT
SLP
VHS
DOLBY NR
CAMERA
DEW
SEARCH
PUSH-OPEN
REV
PAUSE
FWD
POWER
ON
OFF
VTR/TV
INDEX SELECT
RESET
MEMORY
REMAINING TIME
Panasonic
Video Cassette Recorder NV-8950
CAMERA

① Turn VCR OFF. The VTR/TV Selector changes to "TV" automatically.

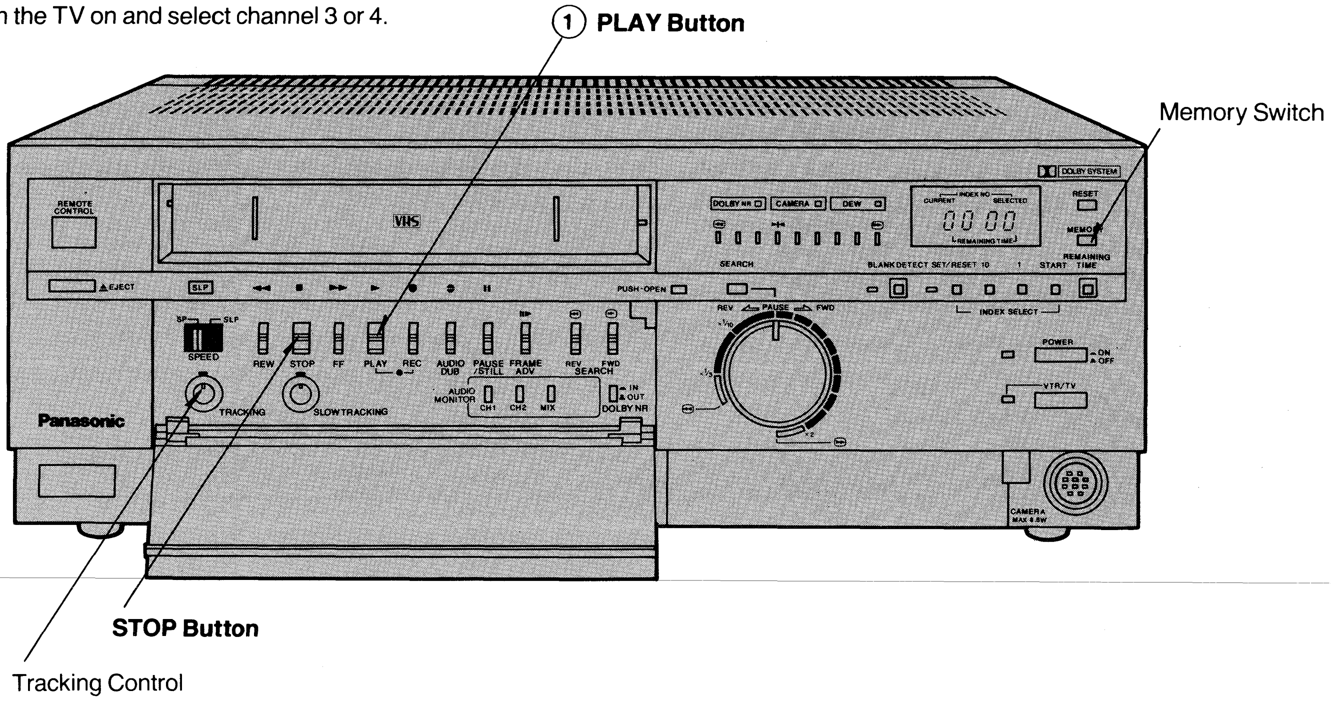
② Turn the TV ON.

③ Select desired channel on the TV.

PLAYBACK AND MULTI-MOTION PLAYBACK

Prepare for playback as follows:

- Turn the VCR on.
- Reset Tape Counter to "0000".
- Insert a cassette.
- Turn the TV on and select channel 3 or 4.


① PLAY Button
Memory Switch
STOP Button
Tracking Control
REMOTE CONTROL
EJECT
SLP
VHS
PUSH-OPEN
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
TRACKING
SLOW TRACKING
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR
Panasonic
DOLBY SYSTEM
DOLBY NR
CAMERA
DEW
RESET
MEMORY
REMAINING START TIME
BLANK DETECT SET/RESET
INDEX SELECT
POWER
ON
OFF
VTR/TV
CAMERA MAX 4.8W

① Push **PLAY Button**.
VTR/TV Selector is automatically switched to "VTR".
The "SLP" Indicator Lamp will light up when the tape recorded in SLP mode is played.*

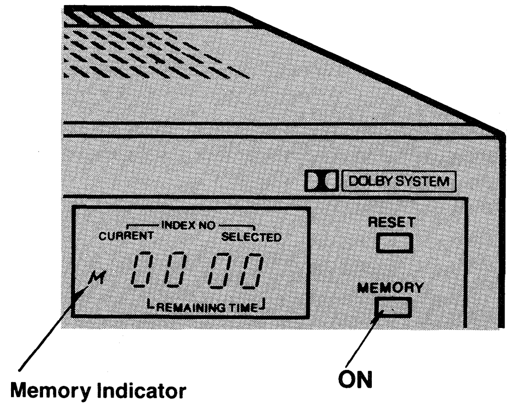
TRACKING CONTROL

If the TV reception is satisfactory but noise appears in the playback pictures, rotate the Tracking Control to the clockwise or counterclockwise and adjust so that the picture appears normal.

- Push **STOP Button** to stop playback.
  - When the tape reaches its end, the tape will be rewound automatically.

***Note:** This model is not designed to accommodate LP tapes. Please dub them first using another VCR which is capable of LP playback.

MEMORY SWITCH


DOLBY SYSTEM
INDEX NO
CURRENT
SELECTED
M
00 00
REMAINING TIME
RESET
MEMORY
Memory Indicator
ON

The Memory Switch is useful when you wish to start playing back from a certain point on the tape.
When the Memory Switch is depressed, Memory Indicator "M" is lit on the left side of the Tape Counter. When you wind the tape by pushing REWIND or FAST FORWARD Button, the tape will automatically stop at the point where the Tape Counter is set to "0000". The tape actually stops at around "9999" so that the start of playback is not skipped.

- Push this switch again to release the VCR from MEMORY function. The "M" indicator will go off.

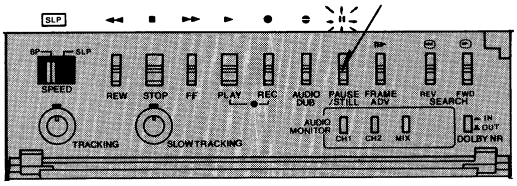
MULTI-MOTION PLAYBACK (No sound is produced.)

① First push **PLAY Button**.

STILL-PICTURE (FIELD) playback

② While the tape is running, push **PAUSE/STILL Button** to view a still-picture.

PAUSE/STILL ❚❚


SLP
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
TRACKING
SLOW TRACKING
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR

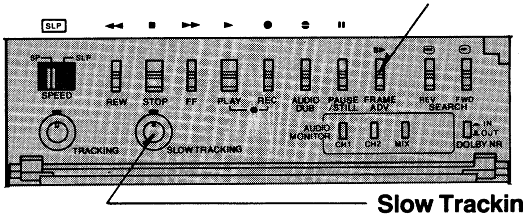
- Push again to release the tape from pause.

- If you should leave the unit in pause for more than 5 minutes, the unit will stop automatically to protect the tape and the video heads.

FRAME ADVANCE playback

③ With the pause mode established, push **FRAME ADV Button**. Each time you push this button, the still-picture will advance one single field.

FRAME ADV ❚❚▶


SLP
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
TRACKING
SLOW TRACKING
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR

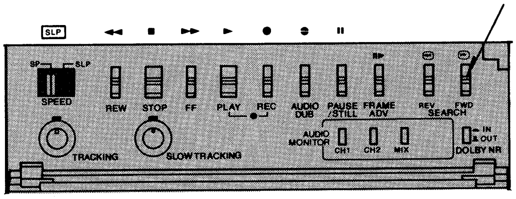
Slow Tracking Control

- If noise appears during Still-Picture (Field), Frame Advance, Search Forward-Reverse, Variable Speed or Slow Reverse, correct by rotating the Slow Tracking Control to the clockwise or counterclockwise.
- This noise may still persist even if the Slow Tracking Control is rotated when using a tape which has been recorded on another video recorder.

SEARCH FORWARD playback

④ When **SEARCH FORWARD Button** is held down during playback of tape recorded in the SLP mode, pictures at 8 times normal speed will be played. When the tape recorded in the SP mode is played back, pictures at 4 times normal speed will be played.

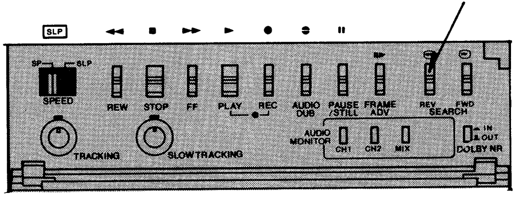
SEARCH FORWARD ▶▶


SLP
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
TRACKING
SLOW TRACKING
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR

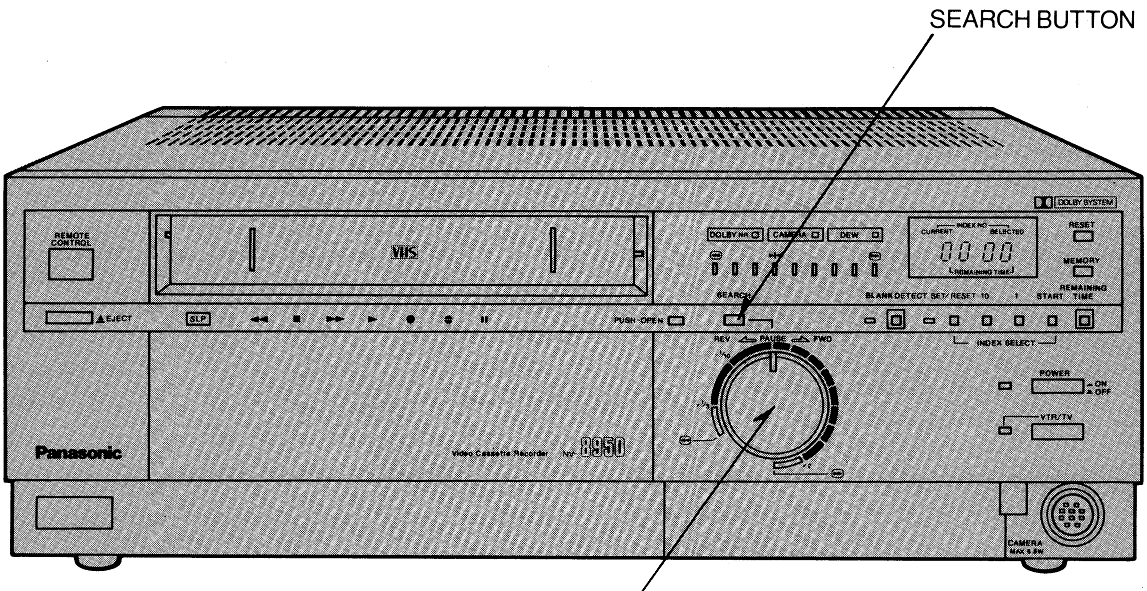
SEARCH REVERSE playback

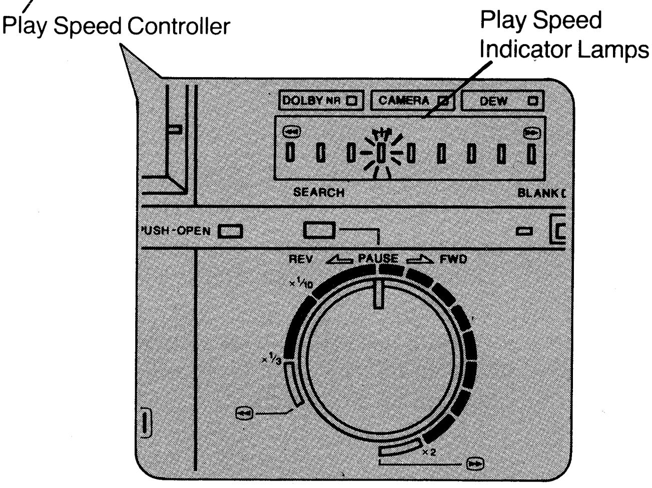
⑤ When **SEARCH REVERSE Button** is held down during playback of the tape recorded in the SLP mode, pictures at 8 times normal speed will be played in reverse. During playback of the SP tape, pictures at twice normal speed will be played in reverse.

SEARCH REVERSE ◀◀


SLP
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
TRACKING
SLOW TRACKING
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR

VARIABLE SPEED playback


SEARCH BUTTON
REMOTE CONTROL
VHS
EJECT
SLP
PUSH-OPEN
DOLBY NR
CAMERA
DEW
SEARCH
BLANK DETECT SET/RESET
INDEX SELECT
RESET
MEMORY
REMAINING TIME
POWER
ON
OFF
VTR/TV
REV
PAUSE
FWD
Panasonic
Video Cassette Recorder NV-8950
CAMERA


Play Speed Controller
Play Speed Indicator Lamps
DOLBY NR
CAMERA
DEW
SEARCH
BLANK
PUSH-OPEN
REV
PAUSE
FWD
×1/10
×1/3
×2

When the **SEARCH Button** is pushed during ordinary playback, the still-picture playback mode is established if the Play Speed Controller is set in the "PAUSE" position, and corresponding "▶|◀" indicator lights up.
When the Play Speed Controller is rotated clockwise, the playback speed can be accelerated up to ×2 normal tape speed. When the controller is rotated to its rightmost position (in the ▶▶ area), the search forward mode is established. When the controller is released, it returns to the "×2" mark.

SLOW REVERSE playback

When the Play Speed Controller is rotated counterclockwise, the ×1/10 and ×1/3 slow reverse playback mode is established. When the control is rotated (in the ◀◀ area), the search reverse mode is established. When the control is released, it returns to the "×1/3" mark.

- Push the SEARCH Button or Play Button to stop variable speed or slow reverse playback.
- When playing back a tape in multi-motion on a TV set equipped with an automatic vertical hold function, the picture may shake vertically. If this happens, set the TV set's vertical hold AUTO/MANUAL selector to the MANUAL position.
- When variable speed or slow reverse playback continues for more than about 10 minutes, the function is automatically released and the unit is set to the stop mode.

CAMERA RECORDING

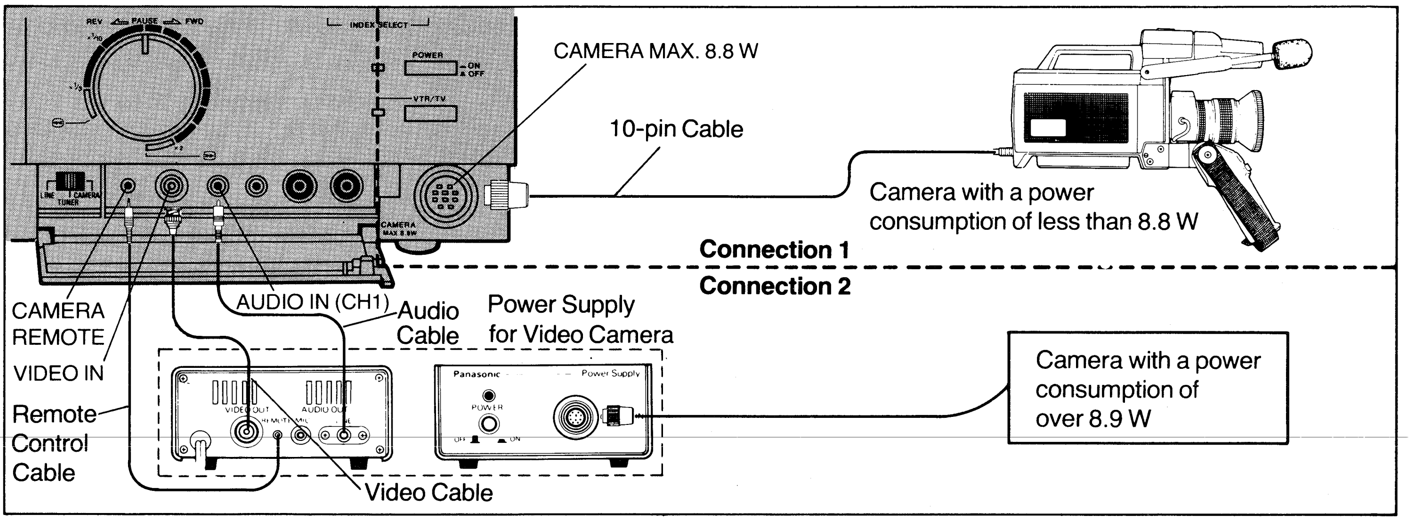
The unit may be used with an optional video camera.
For best results, please refer to the operating instructions of the camera you are using.

NOTE:

A camera with a power consumption of less than 8.8 W can be directly connected to the Camera Input Terminal. A camera with a power consumption of over 8.9 W must be connected to the VCR via power supply unit.

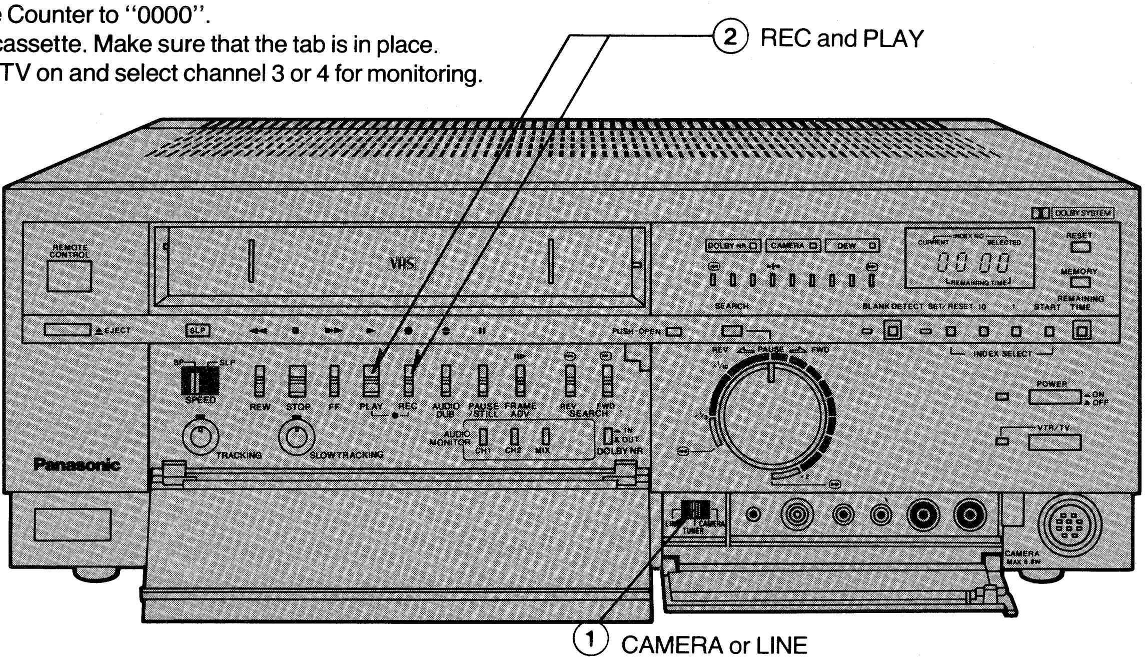
The power supply unit of the camera is connected to the VCR as shown:
Connect the remote control cable of the camera to the CAMERA REMOTE Jack, the video cable to the VIDEO IN Jack and the audio cable to the AUDIO IN (CH 1) Jack.

If you wish to record sound with microphones, connect the microphones to MIC Jacks (CH 1 and 2). If the microphone and the audio cable are connected at the same time, only the sound from the microphone will be recorded.


REV PAUSE FWD
INDEX SELECT
POWER
ON
OFF
VTR/TV
LINE
CAMERA
TUNER
CAMERA MAX 8.8W
CAMERA MAX. 8.8 W
10-pin Cable
Camera with a power consumption of less than 8.8 W
Connection 1
Connection 2
CAMERA REMOTE
VIDEO IN
Remote Control Cable
AUDIO IN (CH1)
Audio Cable
Power Supply for Video Camera
Panasonic
Power Supply
POWER
OFF
ON
VIDEO OUT
AUDIO OUT
Video Cable
Camera with a power consumption of over 8.9 W

Prepare for camera recording as follows:

- Turn the VCR on.
- Set VTR/TV Selector to "VTR".
- Set Tape Speed Selector to "SP" or "SLP".
- Set Tape Counter to "0000".
- Insert a cassette. Make sure that the tab is in place.
- Turn the TV on and select channel 3 or 4 for monitoring.


② REC and PLAY
DOLBY SYSTEM
REMOTE CONTROL
VHS
EJECT
SLP
PUSH-OPEN
DOLBY NR
CAMERA
DEW
CURRENT
INDEX NO
SELECTED
00 00
REMAINING TIME
RESET
MEMORY
SEARCH
BLANK DETECT
SET/RESET
10
1
REMAINING START TIME
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR
TRACKING
SLOW TRACKING
Panasonic
REV PAUSE FWD
INDEX SELECT
POWER
ON
OFF
VTR/TV
LINE
CAMERA
TUNER
CAMERA MAX 8.8W
① CAMERA or LINE

① Set **INPUT SIGNAL Selector** to "CAMERA" for Connection 1 or "LINE" for Connection 2.

② Push **RECORD Button** together with **PLAY Button**. The indicator lamps of RECORD, PLAY and PAUSE/STILL should light up. The unit goes into the standby mode.

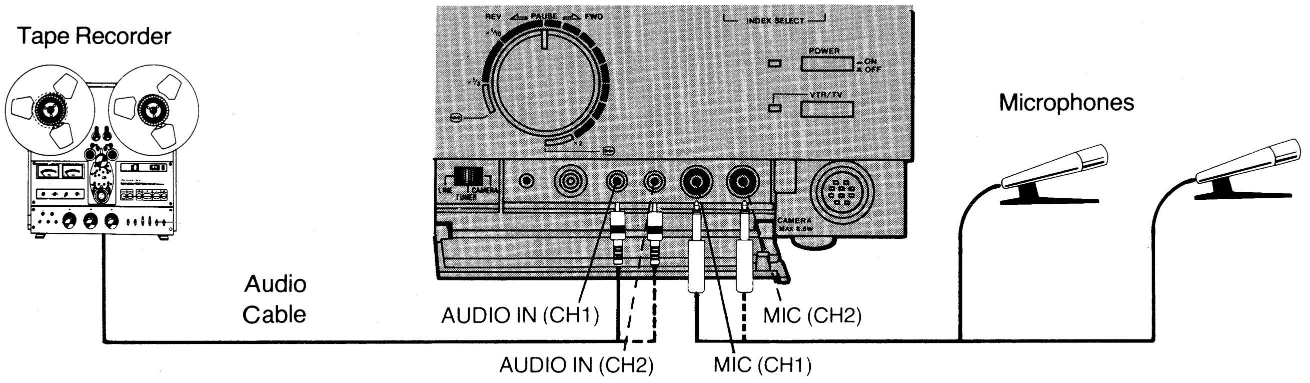
Make any necessary adjustments on the camera. Refer to the operating instructions of the camera you are using on how to handle the camera and how to start and stop camera recording.

When a camera with a video control function is employed, this camera's video control function and standby function will not work.
It will not be possible to view playback pictures on the electronic viewfinder of a video camera which is connected to this unit.

AUDIO DUBBING

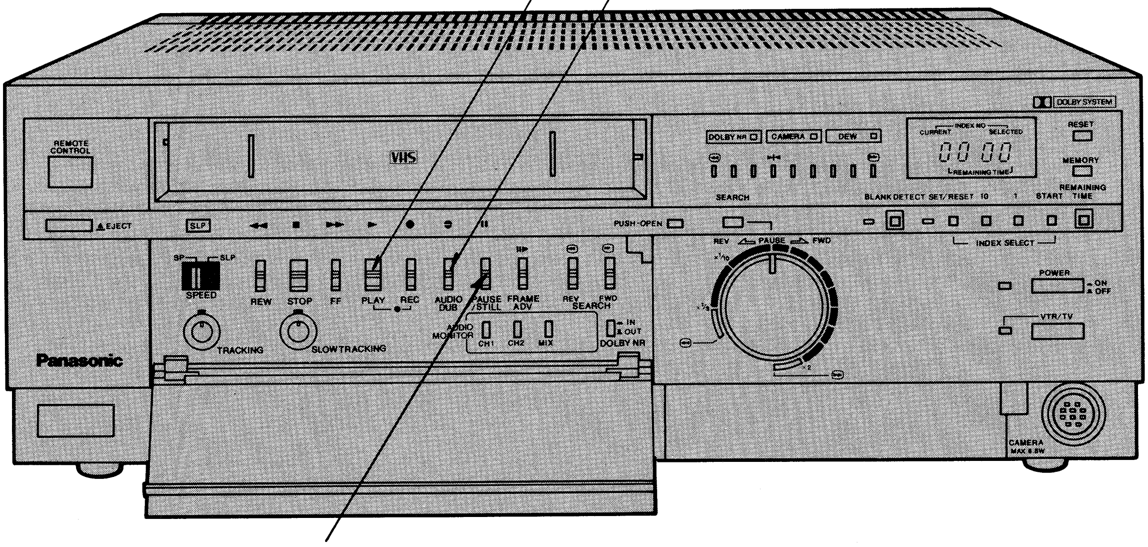
Your own soundtrack may be substituted onto a previously recorded tape by using either a microphone, tape recorder, or your own component audio system.

If the microphone and the audio cable are connected at the same time, then only sound from the microphone will be recorded.


Tape Recorder
Microphones
Audio Cable
AUDIO IN (CH1)
MIC (CH2)
AUDIO IN (CH2)
MIC (CH1)
REV PAUSE FWD
INDEX SELECT
POWER
ON
OFF
VTR/TV
LINE
CAMERA
TUNER
CAMERA MAX 8.8W

Prepare for audio dubbing as follows:

- Set Input Signal Selector to "LINE".
- Turn the VCR on.
- Insert a cassette. Make sure that the tab is in place.
- Reset Tape Counter to "0000".
- Turn the TV on and select channel 3 or 4.


PLAY
AUDIO DUB
PAUSE/STILL
REMOTE CONTROL
VHS
EJECT
SLP
PUSH-OPEN
DOLBY SYSTEM
DOLBY NR
CAMERA
DEW
SEARCH
BLANK DETECT SET/RESET
RESET
MEMORY
REMAINING START TIME
INDEX SELECT
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV FWD SEARCH
AUDIO MONITOR
CH1
CH2
MIX
IN
OUT
DOLBY NR
TRACKING
SLOW TRACKING
POWER
ON
OFF
VTR/TV
Panasonic
CAMERA MAX 8.8W

① Push **PLAY Button** to reach the tape segment where you want to start audio dubbing.

② Push **PAUSE/STILL Button** at the place where you want the dub to begin.

③ Push **AUDIO DUB Button** together with **PLAY Button**.

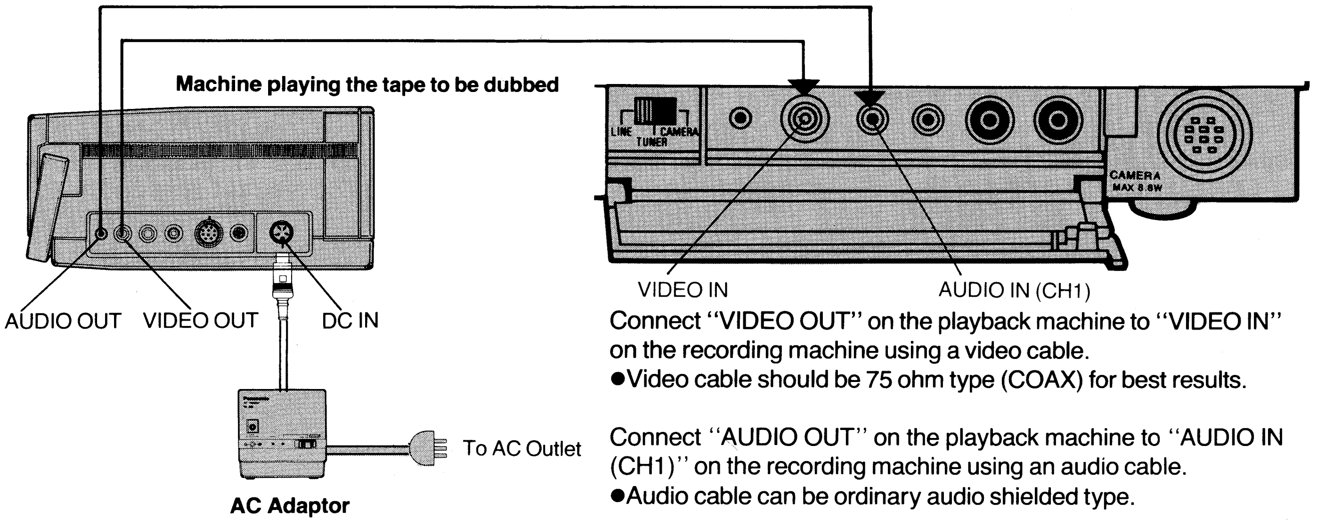
④ Push **PAUSE/STILL Button** once again to release the tape from pause. Audio dubbing will start.

⑤ Push **STOP Button** to stop audio dubbing.

- When a microphone is used for dubbing do not get it near the speaker of your TV while the dub is being made. A howling noise (feedback) may occur.
- If the cassette's tab is missing, no audio dubbing can be made.
- If a tape which has been dubbed is played back on a VCR which has no 2-channel function, the sound recorded on audio channel 1 will be heard mixed together with the dubbed sound.
- When a tape recorded on a monaural VCR is dubbed in stereo (e.g. audio dubbing with 2 microphones) on this unit, the original sound will be heard slightly when the tape is replayed on a monaural VCR.

RE-RECORDING

Connect as outlined below in the following cases for using two video recorders to copy a tape which has been recorded:
●You are cautioned that copying and/or exchanging copyrighted television programming may be copyright infringement.

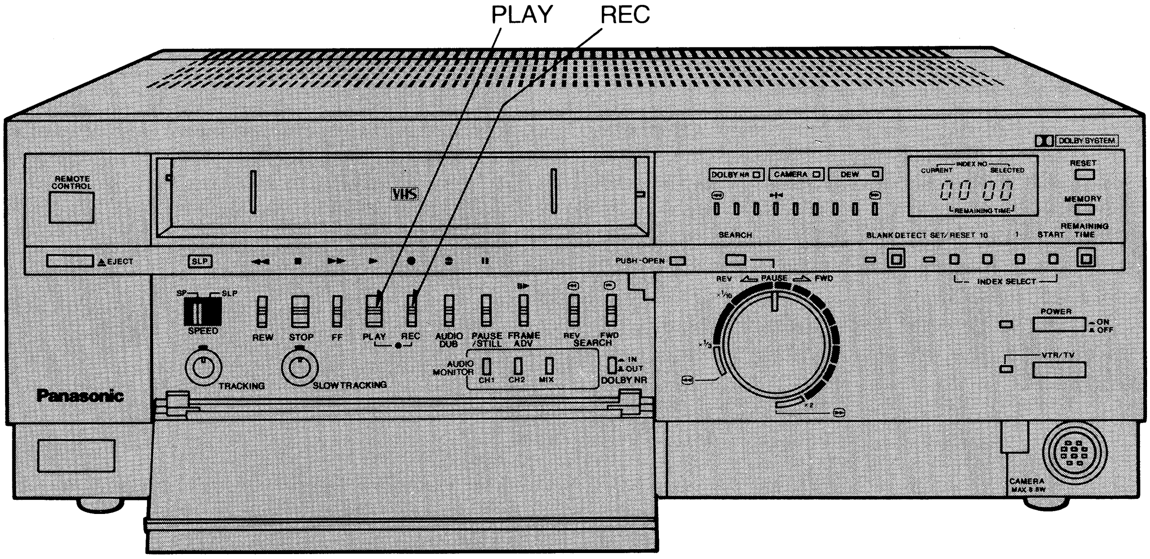

Machine playing the tape to be dubbed
AUDIO OUT
VIDEO OUT
DC IN
To AC Outlet
AC Adaptor
LINE
TUNER
CAMERA
CAMERA MAX 8.8W
VIDEO IN
AUDIO IN (CH1)

Connect "VIDEO OUT" on the playback machine to "VIDEO IN" on the recording machine using a video cable.
●Video cable should be 75 ohm type (COAX) for best results.

Connect "AUDIO OUT" on the playback machine to "AUDIO IN (CH1)" on the recording machine using an audio cable.
●Audio cable can be ordinary audio shielded type.

Prepare for re-recording as follows:

- Set Input Signal Selector on the recording machine to "LINE".
- Turn both units on.
- Set VTR/TV Selector on the recording machine to "VTR".
- For monitoring of re-recording, turn the TV on and select channel 3 or 4.


PLAY
REC
Panasonic

① Place the recorded cassette in the playback machine and a blank cassette in the recording machine.

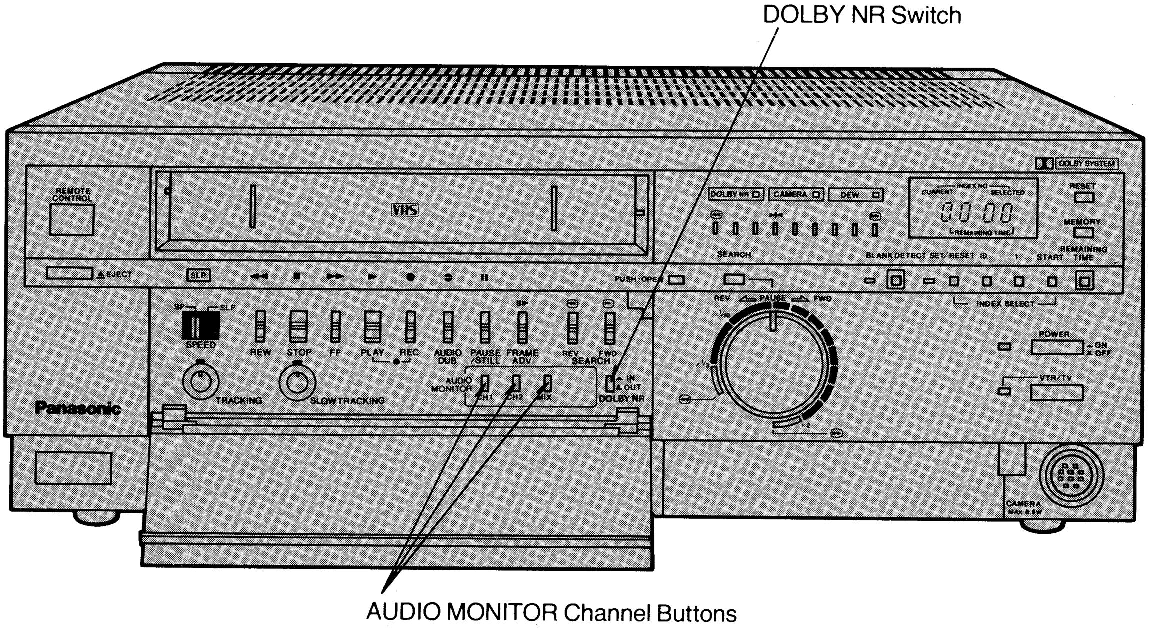
② Push **PLAY Button** on the playback machine.

③ Push **RECORD Button** together with **PLAY Button** to set the recording machine to re-record.

④ Push **STOP Button** to stop the re-recording.

Re-recorded tape has poorer picture quality than the original.

SPECIAL FUNCTIONS OF YOUR VCR


DOLBY NR Switch
REMOTE CONTROL
VHS
EJECT
SLP
DOLBY NR
CAMERA
DEW
CURRENT
INDEX NO
SELECTED
00 00
REMAINING TIME
RESET
MEMORY
REMAINING
START TIME
DOLBY SYSTEM
SEARCH
BLANK DETECT SET/RESET ID
PUSH-OPEN
INDEX SELECT
SP
SLP
SPEED
REW
STOP
FF
PLAY
REC
AUDIO DUB
PAUSE /STILL
FRAME ADV
REV
FWD
SEARCH
IN
OUT
DOLBY NR
AUDIO MONITOR
CH1
CH2
MIX
TRACKING
SLOW TRACKING
Panasonic
REV
PAUSE
FWD
POWER
ON
OFF
VTR/TV
CAMERA
AUDIO MONITOR Channel Buttons

DOLBY NR SWITCH

In order to attain recording and playback sound with least noise, this VCR contains Dolby circuitry.
Dolby NR is a noise reduction system which greatly reduces unwanted background noise which is disturbing recordings during quiet passages.
Dolby system will function only when the tape has been recorded with Dolby NR and is played back with Dolby NR.
If the tape, which has not been recorded with Dolby NR, is played back with the Dolby Switch IN, the noise reduction system will not function correctly, and may cause a reduction in higher frequencies.
If the tape recorded with Dolby NR is played back with this switch OUT, the noise reduction system will not function and the sound may not be reproduced correctly.
Therefore, when Dolby NR is used during recording this should be noted on the cassette label for easy identification when subsequently playing back.

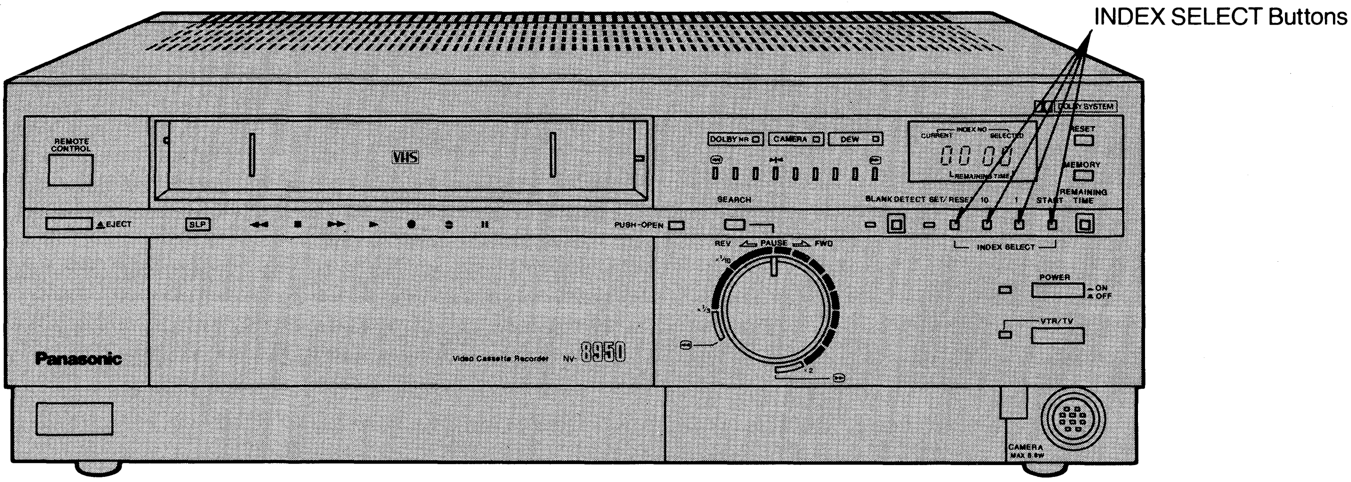
FUNCTIONAL CHART FOR AUDIO

Audio Monitor Channel Button	Audio Monitor Output Jacks/RF Converter	Audio Output Jack Channel 1 Channel 2
CH 1	Audio from channel 1 only	Both audio signals not affected by selector setting
MIX	Sound from both channels will be mixed	
CH 2	Audio from channel 2 only	

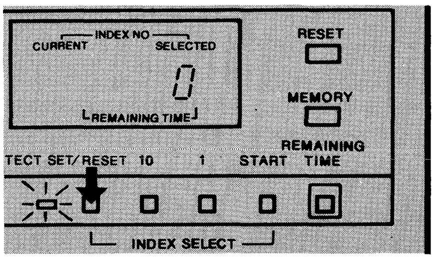
INDEX SELECT Button

Every time recordings take place, this VCR records the position at which the recording started. Up to 99 positions can be indexed on one video cassette tape. These buttons search the desired recording start points and start playback automatically.

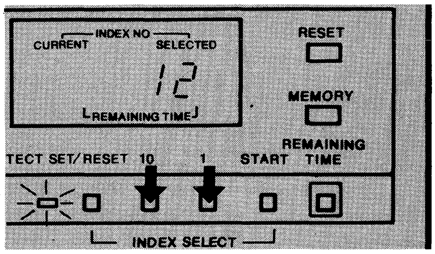
Automatic search with the INDEX SELECT Buttons is possible if the recording time is 2 or more minutes. Search operations can be performed more conveniently if numbers are jotted down along with the titles of the recordings on the video cassette in accordance with the recording sequence as an index. Then positions on the tape can be searched using the INDEX SELECT Buttons.


INDEX SELECT Buttons
REMOTE CONTROL
VHS
EJECT
SLP
PUSH-OPEN
DOLBY NR
CAMERA
DEW
SEARCH
INDEX NO
CURRENT
SELECTED
REMAINING TIME
BLANK DETECT SET/RESET
10
1
START
RESET
MEMORY
REMAINING TIME
INDEX SELECT
DOLBY SYSTEM
REV
PAUSE
FWD
POWER
ON
OFF
VTR/TV
Panasonic
Video Cassette Recorder NV-8950
CAMERA

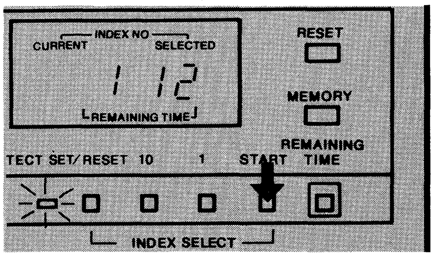
① When the SET/RESET Button is pressed, the corresponding lamp lights up and "0" appears under the "SELECTED".


INDEX NO
CURRENT
SELECTED
0
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET
10
1
START
TIME
INDEX SELECT

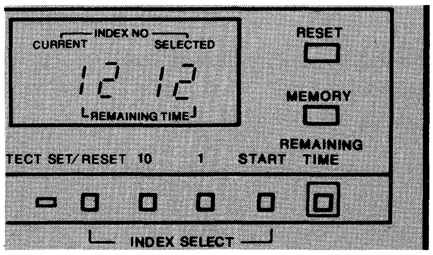
② Press the "1" and "10" Buttons to obtain the number of the recording which is to be viewed.


INDEX NO
CURRENT
SELECTED
12
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET
10
1
START
TIME
INDEX SELECT

③ Push the START Button, the lamp of the SET/RESET Button flashes on and off, the tape is fully rewound and the CURRENT number "1" is indicated.


INDEX NO
CURRENT
SELECTED
1
12
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET
10
1
START
TIME
INDEX SELECT

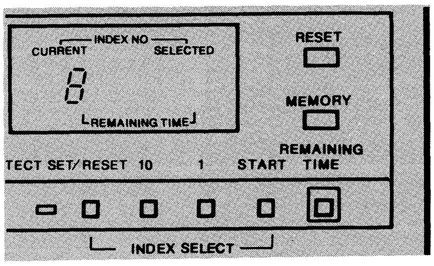
④ The tape starts to move automatically and when the SELECTED number and the CURRENT number coincide, playback starts.


INDEX NO
CURRENT
SELECTED
12
12
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET
10
1
START
TIME
INDEX SELECT

- Once playback has started, INDEX numbers disappear and the display returns to begin an ordinary tape counter.
- The position on the tape which has been located by this method may shift slightly from the actual desired position.

Continued on next page

⑤ When tape search has been performed once, the next search operation will be different.
When the SET/RESET Button is pressed, the CURRENT number will appear on the display.


INDEX NO
CURRENT
SELECTED
8
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET
10
1
START
TIME
INDEX SELECT

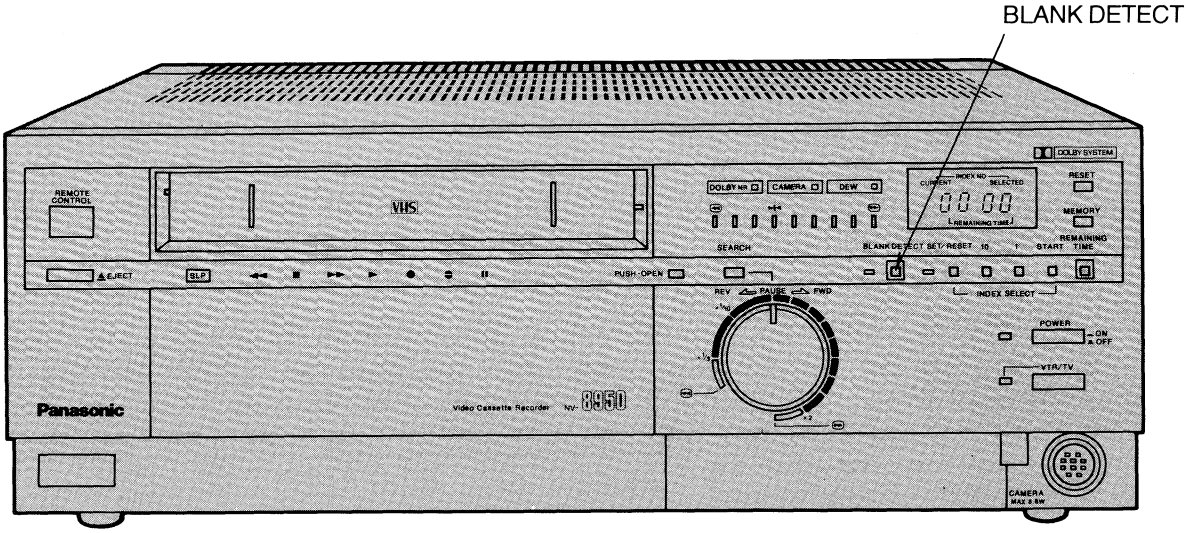
- Program search is not possible with general pre-recorded tapes sold on the market or tapes which have been recorded on any VCR other than this unit.
- The automatic search signal will not be recorded onto the tape when the pause mode is established during recording or when the start point of a timer recording has been brought to within 1 minute of the end of a pre-recorded section.

To disengage this operation (automatic search), push the SET/RESET Button again.

The operation for automatic search using a camera is performed as follows:
1. Push the RECORD Button on the VCR.
2. Push the camera's start/stop switch (recording does not start yet).
3. Push the RECORD Button together with the PLAY Button to start recording.

BLANK DETECT Button

This button is used to search any blank (unrecorded) part of the tape extending for 14 seconds in the fast forward mode (about 3 minutes in the SP mode or about 9 minutes in the SLP mode during recording or playback). The tape is then brought to the start of the blank portion.

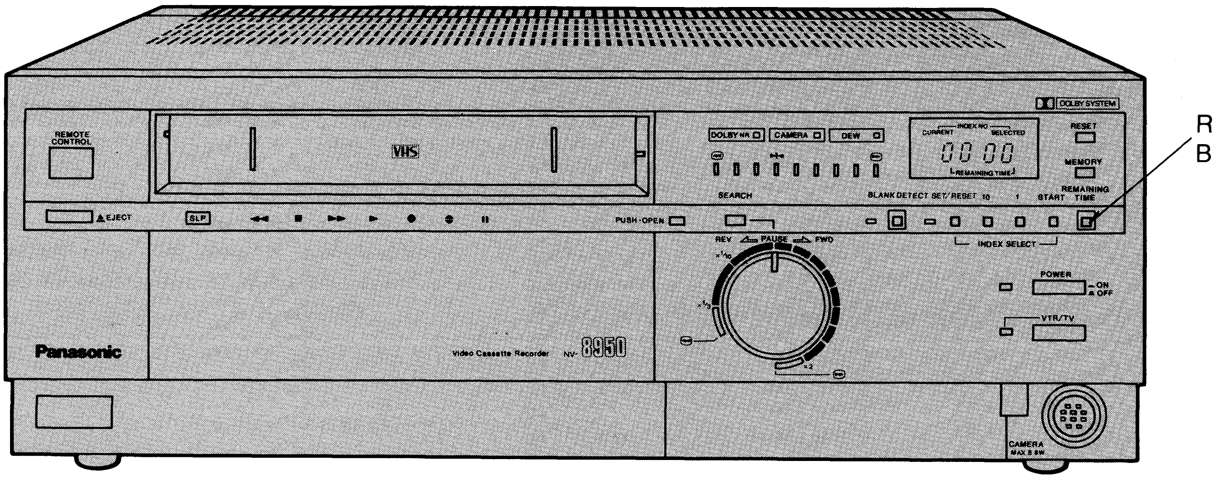

BLANK DETECT
DOLBY SYSTEM
REMOTE CONTROL
VHS
EJECT
SLP
DOLBY NR
CAMERA
DEW
SEARCH
PUSH-OPEN
CURRENT
INDEX NO
SELECTED
REMAINING TIME
RESET
MEMORY
REMAINING
BLANK DETECT SET/RESET
10
1
START
TIME
INDEX SELECT
REV
PAUSE
FWD
POWER
ON
OFF
VTR/TV
Panasonic
Video Cassette Recorder NV-8950
CAMERA

When the BLANK DETECT Button is pushed, the digits on the Tape Counter disappear if there is a blank on the tape and when the lamp corresponding to this button flashes on and off. When the tape stops traveling and the search is concluded, the Tape Counter resumes function.
To disengage this operation, push the button again. The lamp goes off.

- A "blank" means a part of the tape which has not been recorded over and not a "blank" means that part of the tape which only has tape noise on it.

REMAINING TIME Button

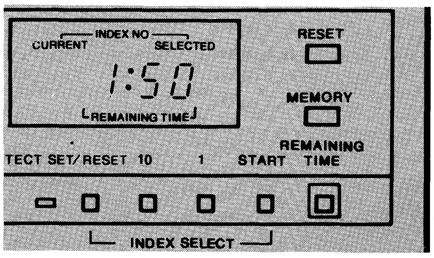
When this button is pushed during recording and normal playback, the digits on the Tape Counter disappear and the remaining tape time is indicated instead.


REMAINING TIME Button
REMOTE CONTROL
EJECT
SLP
VHS
DOLBY NR
CAMERA
DEW
SEARCH
INDEX NO
CURRENT
SELECTED
00 00
REMAINING TIME
RESET
MEMORY
BLANK DETECT SET/RESET 10 1 START TIME
PUSH-OPEN
REV PAUSE FWD
INDEX SELECT
POWER
ON
OFF
VTR/TV
Panasonic
Video Cassette Recorder NV-8950
CAMERA

This function does not work with a tape on which nothing has been recorded.

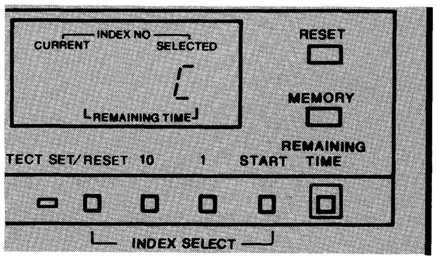
Push the REMAIN REMAINING TIME Button . . .

When "1:50" is shown, the remaining time is 1 hour and 50 minutes.


INDEX NO
CURRENT
SELECTED
1:50
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET 10 1 START TIME
INDEX SELECT

- The display shows 5-minute intervals.

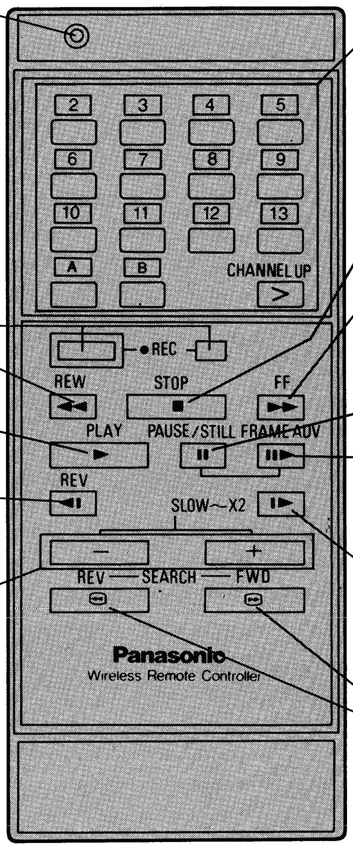
When "C" appears, it means that the remaining time is being counted. Wait for between 20 and 50 seconds and then press the button again.


INDEX NO
CURRENT
SELECTED
C
REMAINING TIME
RESET
MEMORY
REMAINING
TECT SET/RESET 10 1 START TIME
INDEX SELECT

- The digits on the Tape Counter flash on and off when there are less than 5 minutes of tape remaining.
- When less than 5 minutes remain and the REMAINING TIME Button is pressed, "0:00" is displayed while the button is down.

NOTE: This function does not work with tapes not made on this type VCR or tapes wound to a non-standard length.
Standard tape: NV-T30, T60 and T120.

WIRELESS REMOTE CONTROL



Wireless Remote Transmitter Operational Indicator

Record Button (Two Button Entry)

Rewind Button

Play Button

Slow Reverse Button
—For playback in reverse at 1/10 normal speed.

Slow~×2 Controller
—When the Slow~×2 Button has been pushed, pressing these buttons give a maximum range of twice normal speed—to still-picture.

Channel Selection Buttons*

Stop Button

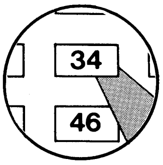
Fast Forward Button

Pause/Still Button
—Press to stop the tape during PLAYBACK. A still-picture will be shown.

Frame Advance Button
—During viewing of still-picture, press this button to advance the picture one frame at a time.

SLOW~×2 Button

Search Buttons
—Press either the SEARCH ◀◀ (Reverse) or ▶▶ (Forward) Button to view the playback picture at about twice, 4 or 8 times normal speed.



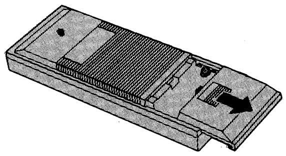
***To change channel numbers**
Remove desired channel number tabs from the channel number tabs sheet (supplied) by using the spatula (supplied) and put selected number tabs on the proper position.

- The Wireless Remote Control is powered by two "AA" size batteries. The life of the batteries is about a year although this will depend on the number of times the unit is used. Replace or inspect the batteries once a year.

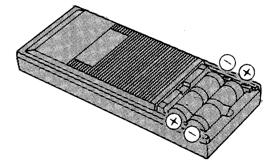
BATTERY REPLACEMENT CAUTION

- ●Insert new batteries with their polarities (⊕ and ⊖) aligned properly.
- ●Do not heat, disassemble or shortcircuit the old batteries.
- ●If you do not intend to use the remote control for a long period of time, remove the batteries and store them in a cool, dry place.
- ●Remove spent batteries immediately and dispose of them.
- ●Do not mix old and new batteries (Also never mix alkaline batteries with manganese batteries.)

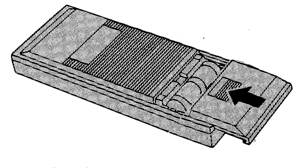
Load the batteries as follows:



① Remove the Battery Compartment lid.



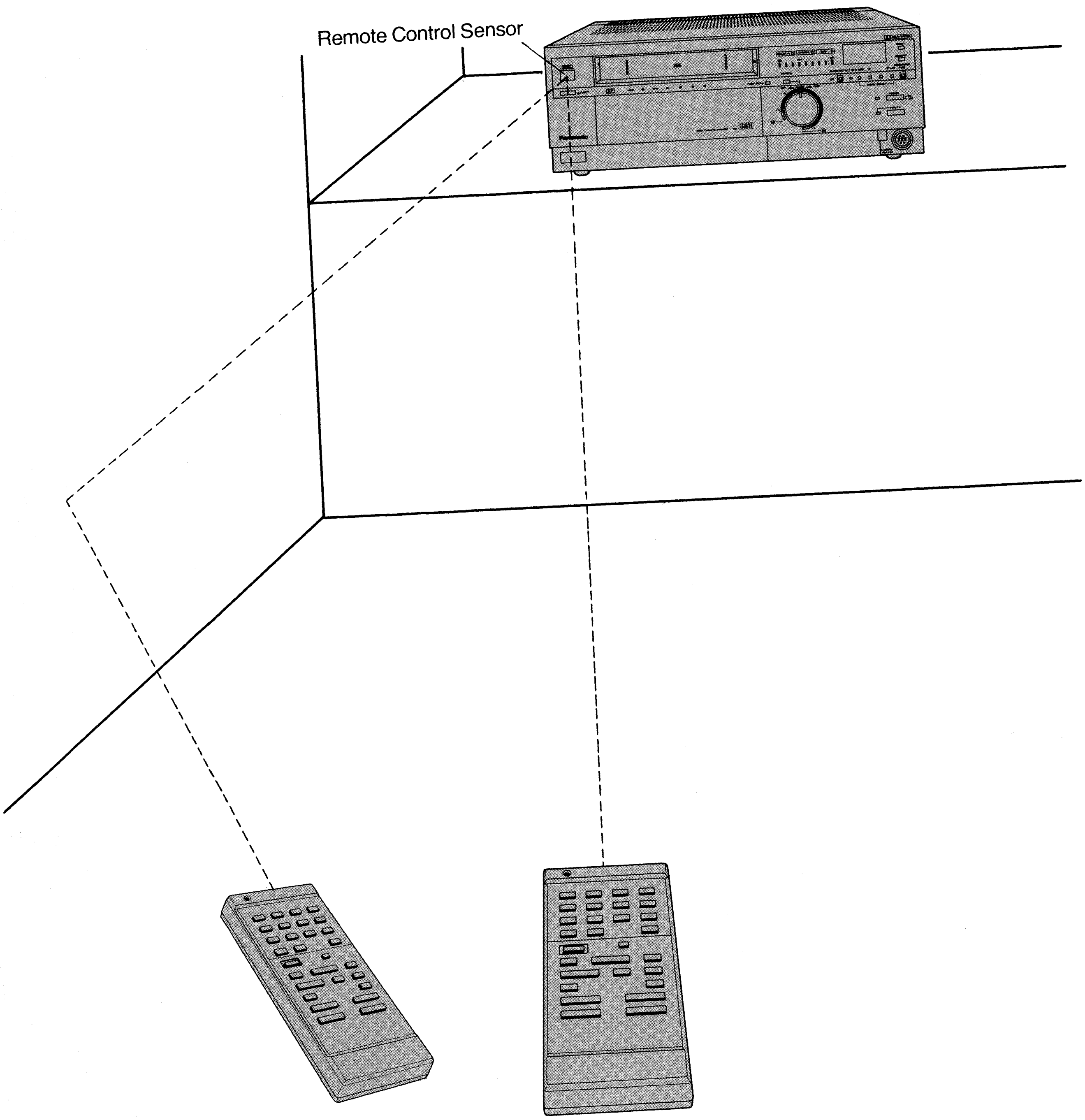
② Place two batteries in the Battery Compartment as indicated.



③ Replace the lid.

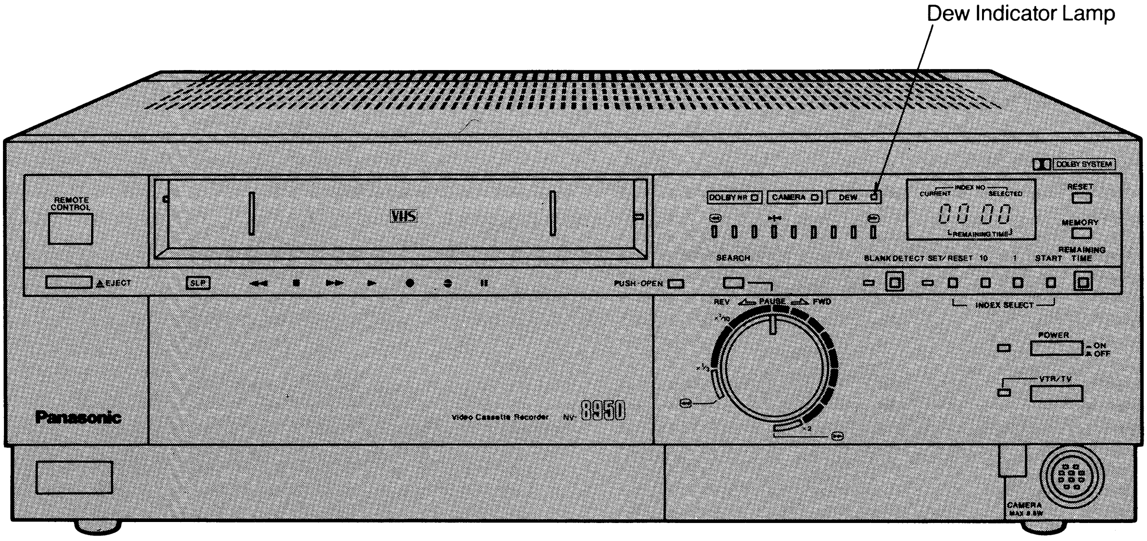
The unit utilizes an Infra-Red Wireless Remote Control System. This means that the remote commands are sent out as invisible light.

For best operation, aim the Wireless Remote Control directly at the receiver window (Remote Sensor) on the VCR. You may find that commands are received even if the Wireless Remote Control is aimed away from the VCR.
This happens because the infra-red beam will bounce off the walls of the room and eventually reach the remote sensor. Note that furniture can block the path, and dark walls may totally absorb the light. If the room receives a lot of sunshine, you may find that the commands are "masked" by the bright light. Block off the sunlight.



Bouncing may work, but aim directly at receiver for best results.

DEW CONDENSATION


Dew Indicator Lamp

REMOTE CONTROL
VHS
DOLBY NR
CAMERA
DEW
DOLBY SYSTEM
INDEX NO.
CURRENT
SELECTED
REMAINING TIME
RESET
MEMORY
REMAINING START TIME
SEARCH
BLANK DETECT SET/RESET
EJECT
SLP
PUSH-OPEN
REV
PAUSE
FWD
INDEX SELECT
POWER
ON
OFF
VTR/TV
Panasonic
Video Cassette Recorder NV-8950
CAMERA

Like dew, drops of moisture forming on the window pane of a heated room during winter, the same occurs on video recorders parts when:

—The unit is in a room where the heater has just been turned on.
—The unit is in a room with steam or a high level of humidity.
—The unit is brought from cold surroundings into a well-heated room.
—When the unit is suddenly brought from air-conditioned surroundings, such as a room or vehicle, in the summer to a place which is hot and humid.

When dew forms:
The Dew Indicator Lamp lights up to protect the tape and the video heads, and all the function buttons except the EJECT Button are disabled. The formation of dew is a gradual process and so the Dew Indicator Lamp may not light for between 10 and 15 minutes after the dew starts to form.
When the unit is in a room where the temperature or humidity changes suddenly, wait about 20 minutes and then check the Dew Indicator Lamp.

When the Dew Indicator Lamp lights:
Take out the video cassette and wait until the Dew Indicator Lamp goes off with the unit's AC Power Cord plugged in. Although it depends on the surrounding conditions, the lamp will go off in several hours at most.
This unit contains a dew prevention heater. This is operational even when the power switch is OFF but it will not work if the power plug is disconnected from the power outlet.

GLOSSARY OF TERMS

ACC

Automatic Color Control used to maintain an overall constant color signal level in the color circuits.

ACK

Automatic Color Killer.

Adjacent Track

This is the name of the video track to the immediate left or right of the track of concern.

AFC

Automatic Frequency Control used to phase-lock the color circuits to either the recording or playback color signal, in order to achieve a stable color signal.

AFT

Automatic Fine Turning...This is a special circuit found in most recent TV sets which makes the local oscillator of the TV tuner follow the channel of concern in order to produce a stable IF frequency. In other words, if for any reason the TV station being received changs frequency, the AFT circuit will automatically compensate so that no interference will be seen on the screen, i.e., no manual fine turning is necessary.

AGC

Automatic Gain Control used to maintain an overall constant picture level in the luminance circuits.

APC

Automatic Phase Control used to help phase lock the color circuits to either the recording or playback color signal in order to achieve a stable color signal.

Audio DUB

To re-record the audio portion of a video tape without disturbing the video portion of the signal; also, to make a copy of an audio tape.

Azimuth

A term used to describe the left to right tilt of the gap of a recording head, if it could be viewed straight on.

Balanced Modulator

A circuit so designed to give as an output the frequency sum or frequency difference of its two input signals. Any special characteristics of one of the input signals will be present in the output signal.

Beats

A term used to described the unwanted signals produced when two original signals are allowed to be mixed together.

Bipolar PG

Pulse Generator signals that have both positive and negative excursions.

Black Level

Minimal television voltage signal establishing blackness of transmitted image. The bottom level of the picture signal, below which are the sync, blanking, and other control signals that do not appear as picture information.

Burst

A short time occurence (8 to 10 cycles) of the 3.58MHz subcarrier signal, appearing right after horizontal sync but centered on the blanking portion of the video waveform. Burst is used to keep the color oscillator of a TV receiver locked to the broadcast station.

B/W

Abbreviation for Black and White.

C

Capacitor.

C Signal

The color portion of a video signal.

Capstan

A rotating shaft on the VTR which is turned by a motor and which, in turn, governs the speed of the tape as it proceeds from the supply to the take-up reel.

Chroma

The color portion of a video signal.

Chrominance

The color portion of a video signal.

Clamp

The process of giving an AC signal a specific DC level.

Color Subcarrier

The carrier wave on which the color signal information is impressed; contains the burst signal and alternating phase color information. In the U.S. the color subcarrier is 3.579545MHz, usually abbreviated to 3.58MHz.

Control Signal

A special signal recorded onto the video tape which is used during playback as a reference for the servo circuits.

Converted Subcarrier

This is the process of frequency shifting the color 3.58MHz subcarrier and its sidebands down to 629kHz.

Crosstalk

The name given to the unwanted signals obtained when a video head picks up information from an adjacent track.

D

Diode.

Dark Clip

After emphasis, the negative going spikes (undershoot) of a video signal may be too large in amplitude for safe FM modulation. A dark clip circuit is used to cut off these spikes at an adjustable level.

DDC

Direct Drive Cylinder...as used in VHS, this means that the video heads are driven by a self-contained brushless DC motor using no belts or gears. DD cylinders produce pictures with better stability.

Delta Factor (Δf)

A term used to indicate that a playback signal off the video tape has some jitter or "wow and flutter". Δf, or "a change in frequency" means that the color signal off the tape is not a stable frequency of 629kHz, but rather a signal whose frequency at any instant is some small amount above or below 629kHz.

Deviation

A term used to describe how far the FM carrier swings when it is modulated. In VHS the upper limit is 4.4MHz.

Dew Detector

A variable resistor whose resistance value depends upon the ambient humidity.

DEW Control

A warning system that indicates the presence of too much moisture for the safe operation of a video recorder.

Dihedral

A term used to describe the relative position between the two video heads as they are mounted in the head cylinder. Perfect dihedral means that the tips of the heads are exactly 180° apart.

DL

Delay Line.

Dropout

A momentary absence of FM or color signal off the tape, whether due to uneven oxide or a coating of dust on the tape or video heads.

Drop-Out Compensator

Circuitry which sense signal loss produced by drop-out and substitutes missing information with signal from the preceding line-if one line drops out of a picture, it is filled in with the preceding line, resulting in no drop-out on the screen.

Duty Cycle

In describing a rectangular waveform, the "duty" refers to the percentage of off time and on time for one complete cycle. 50—50 means that there are equal periods of off time and on time for one cycle and this would be a square wave.

E-E

Electronics to Electronics...this is the picture viewed on the TV set when a recording is being made. This picture goes through some but not all of the circuits of the recorder and is used to test the operation of said circuits.

EIA Sync

Also called EIA RS-170A sync; the standard waveform for broadcast equipment in the United States as established by the EIA. (Electronic Industry Association).

EQ

Shortened form of "Equalization", used in the audio circuits.

Emphasis

The process of boosting the level of the high frequency portions of the video signal.

Erase Head

Either an audio or video head which erases the signal on a video tape prior to the recording of a new signal on that tape; simply, an electromagnet which disturbs the signal previously recorded on the tape.

FG

Frequency Generator used in the servo circuits.

FL

Filter.

FM Signal

The luminance portion of the video signal is used to control the frequency of astable multivibrator. The output of this multivibrator is a frequency modulated (FM) signal shifting from 3.4 MHz to 4.4 MHz (puls sidebands).

Field

One half of a television picture. A field consists of 262.5 horizontal scanning lines across the picture tube. Two fields are necessary to complete a fully scanned TV picture (frame). First, one field is "sprayed" on the picture tube, starting at the top of the tube with Line 1, and ending at the bottom with Line 262.5. Then, the next field begins at the top of the tube again with Line 262.5 and ends at the bottom with Line 525. The lines of the second field lie inbetween the lines of the first field. This property of falling in-between lines is called "interlacing". The two sweeps of the picture tube, or two fields make up one complete TV picture of "frame". Frame repetition is 30 Hz, therefore field repetition is 60 Hz.

First Generation

The original recording of a tape segment. The first time the signal is recorded on tape, that tape is called first generation. Every subsequent recording of the already recorded segment will be a generation removed.

Flagwaving

This is the term used to describe a TV sets ability to accept unstable playback pictures from a video tape recorder. All home VTR's have some degree of playback instability. A TV set with a long horizontal AFC time constant may not recover from the VTR's instability before the active picture is being scanned. This can cause a bending or flapping from side to side of the top inch or so of the screen. This movement is called "flagwaving".

Frame

A complete TV picture composed of two fields; a total scanning of all 525 lines of the raster area; occurs every 1/30 of a second.

Gate

A circuit which will deliver an output only when a specific combination of its inputs are present. For use in analog or digital applications.

Guard Band

This is the space between video tracks on the video tape in the SP mode. Guard bands contain no information.

HD

Horizontal Drive signal.

Head Cylinder

A cylindrical piece of metal which houses the video heads. The tips of the heads protrude slightly from the surface of the cylinder so that they may scan the tape as the cylinder spins.

Head Drum Servo

One method of controlling the video tape during playback so that the video heads contact the tape with the proper timing (sync) to retrieve the information on the tape. The control track pulses are used to control the rotation of the video heads.

Head Switching

The action of turning off during playback, the video head which is not in contact with the video tape. A particular video head will be turned off 30 times per second. This is done so that the head which is not scanning the tape, and therefore not delivering a good signal, cannot contribute any noise to the playback signal.

Head Switching Pulse

The signal which is applied to the Head Amplifier to perform head switching. This is a square wave at 30 Hz, with a 50—50 duty cycle.

Helical

A word used to describe a general type of VTR in which the tape wraps around the video head cylinder in the shape of a 3-dimensional spiral, or "helix". The video tracks are recorded as a series of slanted lines.

IC

Integrated Circuit.

Interchangeability

A term used to describe how well a particular VTR will play back a tape recorded on another VTR of the same type. Good interchangeability indicates good playback.

Interlacing

The property of the scan lines of two television fields to lie in-between each other. See "Field".

Interleaving

A term used to indicate that the harmonics of the chrominance signal lie in-between the harmonics of the luminance portion of the video signal as it is viewed on a spectrum analyzer. This means that the color information of a video signal does not interfere with, although it is broadcast at the same time as, the luminance information.

Also, signals which have this interleaving property are not readily seen on a TV screen, because of their virtual cancellation characteristics.

Interleaving signals (fi) must have the following frequency relationship:

$$fi=(\frac{2n+1}{2})\times fH \text{ (n=0, 1, 2, 3, 4......)}$$

$fH=15{,}734\,Hz$ (H sync frequency)

Jitter

The name of the effect on the playback picture if a VTR has too much "wow and flutter". The picture appears to have a rapid shaking movement.

L

Coil.

Luminance

This is the portion of video signal which contains the sync and B/W information.

MMV

Monostable Multi-Vibrator...Usually an IC device which gives a logic high or low output with a variable duration upon receipt of an input pulse or transistion.

MR Head

Magnetic resistor.

Non-Linear Emphasis

This is similar to regular emphasis with the difference that small level high frequency portions of the signal are given more of a boost than higher level high frequency portions.

NTSC

National Television Standards Committee-a broadcast engineering advisory group established in the 1940's which recommends standards to FCC, for the 525 line 60 field system.

NTSC Color

The color standard used in the U.S. and set by the National Television System Committee; compatible color which can be received in b & w.

Overscan

TV picture beyond area of normal screen size.

PG

Pulse Generator used in the servo circuits.

Q

A term used to describe the graphic response of a filter or tuned amplifier.

R

Resistor.

RF

Radio Frequencies.

Rotary Chroma

The name of the process used in VHS to change the phase of the chrominance signal at a rate of 15,734 (same as H sync frequency) times per second.

Rotary Transformer

A device used to magnetically couple RF signals to and from the spinning video heads, thus eliminating the need for brushes.

Sample and Hold

A process used in comparator circuits by which the value of a particular signal is measured at a specific moment in time...then this value is stored for later use.

Servo

Short for Servo mechanism. This is an electro-mchanical device whose mechanical operation (for instance motor speed) constantly being measured and regulated so that it closely matches or follows an external reference.

Skew

Another way of saying Tension Error. Skew is actually the change of size or shape of the video tracks on the tape from the time of recording to the time of playback. This can occur as a result of poor tension regulation by the VTR, or by ambient conditions which affect the tape.

SNAP

Still Noise Advance Pulse which is used to advance the Still Noise until it enters into a vertical blanking area.

Subcarrier Frequency

The frequency on which color information is modulated in the color TV system; in the U.S. it's 3.58MHz.

SS

Slow and Still.

Sync

Synchronize; various drive pulses, both horizontal and vertical, which maintain the horizontal and vertical scanning procedures of the video picture signal from camera to display.

Sync Generator

A pulse generator which produces the sync signals necessary to integrated the functioning of various pieces of video equipment in relation to each and the video signal.

T

Transformer.

TP

Test Point.

TR

Transistor.

Tension Error

See "Skew".

Time Base Stability

A term used to describe how closely the playback video signal from a VTR matches an external reference video signal...in regard to sync timing rather than picture content.

Tracking

This is the action of the spinning video heads during playback when they accurately track across the video RF information laid down during recording. Good tracking indicates that the heads are positioning themselves correctly, and are picking up a strong RF signal. Poor tracking indicates that the heads are off track, and picking up low level RF signal or noise.

VCO

Voltage Controlled Oscillator...An oscillator whose frequency of oscillation is governed by an external voltage.

Vertical Blanking

Field blanking; the blanking of a signal during scanning, when the spot is flying back from scanning one field to begin scanning the next field, and at which time blanking and sync pulses are introduced to the signal.

Vertical Interval

Moment measured in microseconds during which the electron scanning beam returns to the top of the TV tube.

Vertical Interval Switching

A method of switching video signals in a special effects generator; this replacement of one signal with another takes place during the vertical retrace period.

Video Head

This is the electro-magnet used to develop magnetic flux which will put RF information on the tape. In VHS, two video heads are mounted in a rotating cylinder around which the video tape is wrapped. As the cylinder spins, each video head is allowed to alternately scan the tape.

Video Track

The name of the RF information laid down during recording, as a particular video head scans across the tape.

VHS

Video Home System.

VTR

Video Tape Recorder.

VV

Video to Video...or...the actual playback picture produced from a tape during playback.

VXO

Voltage Controlled Crystal Oscillator...Similar to VCO except that a quartz crystal is sued as a reference which can be varied.

Waveform Monitor

Compact instrument for observing video waveform display from Cameras, video tape recorders and video system output lines.

White Clip

After emphasis, the positive going spikes (overshoot) of the video signal may be too large for safe FM modulation. A white clip circuit is used to cut off these spikes at an adjustable level.

XTAL

Abbreviation for crystal.

Y Signal

The B/W portion of a video signal containing B/W information and sync.

ORDER NO. VRD-8203-059

Service Manual

Video Cassette Recorder

Panasonic
Omnivision II VHS

NV-8950

Vol. 2

Mechanical Adjustment Procedures

Electrical Adjustment Procedures

SPECIFICATIONS

Power Source: 120V AC, 60Hz
Power Consumption: Approx. 77 watts
Television System: EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Color signal: converted subcarrier phase shift recording
Audio Track: 2 tracks
Tape Format: Tape width 1/2 inch (12.7mm), high density tape
Tape Speed: SP/1-5/16 i.p.s. (33.35mm/s), SLP/7/16 i.p.s. (11.12mm/s)
Record/Playback Time: 360 min. with NV-T120 used in SLP mode
FF/REW Time: Less than 6 min. with NV-T120
Heads: Video: 4 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
2 audio track erase for audio dubbing
Input Level: Video: Tuner Connector
1.0Vp-p, 75Ω unbalanced
Camera Input Terminal
1.0Vp-p, 75Ω unbalanced
VIDEO IN connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: Tuner Connector
−16dB, 5kΩ unbalanced
Camera Input Terminal
−20dB, 50kΩ unbalanced
MIC IN jack × 2
−70dB, 47kΩ unbalanced
LINE IN jack (RCA) × 2
−20dB, 50kΩ unbalanced
Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: LINE OUT jack (RCA) × 2
−9dB, 1kΩ less unbalanced
AUDIO MONITOR OUT jack (RCA) −9dB, 1kΩ less unbalanced
RF Modulated: Channel 3 or 4
67dBμ (open voltage),
75Ω unbalanced
Video Horizontal Resolution: Color/Monochrome: more than 240 lines
(on monoscope test pattern)
Audio Frequency Response: 50Hz ~ 10kHz in SP mode
Signal-to-Noise Ratio: Video: better than 45dB
(Rohde & Schwarz noise meter)
Audio: better than 48dB (Dolby NR-IN)
Operating Temperature: 41°F ~ 104°F (5°C ~ 40°C)
Operating Humidity: 35% ~ 80%
Weight: 36.3 lbs. (16.5kg)
Dimensions: 17-3/4″(W) × 6-5/8″(H) × 16-13/16″(D)
450(W) × 168(H) × 426(D)mm

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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MECHANICAL ADJUSTMENT PROCEDURES

1.DISASSEMBLY METHOD

1-1.Disassembly Flowchart (Fig.M1)

This flow chart describes the order of steps for removing the cabinet parts and certain printed circuit boards in order to gain access to the items needing servicing. To reassemble the unit, follow the steps in reverse order.

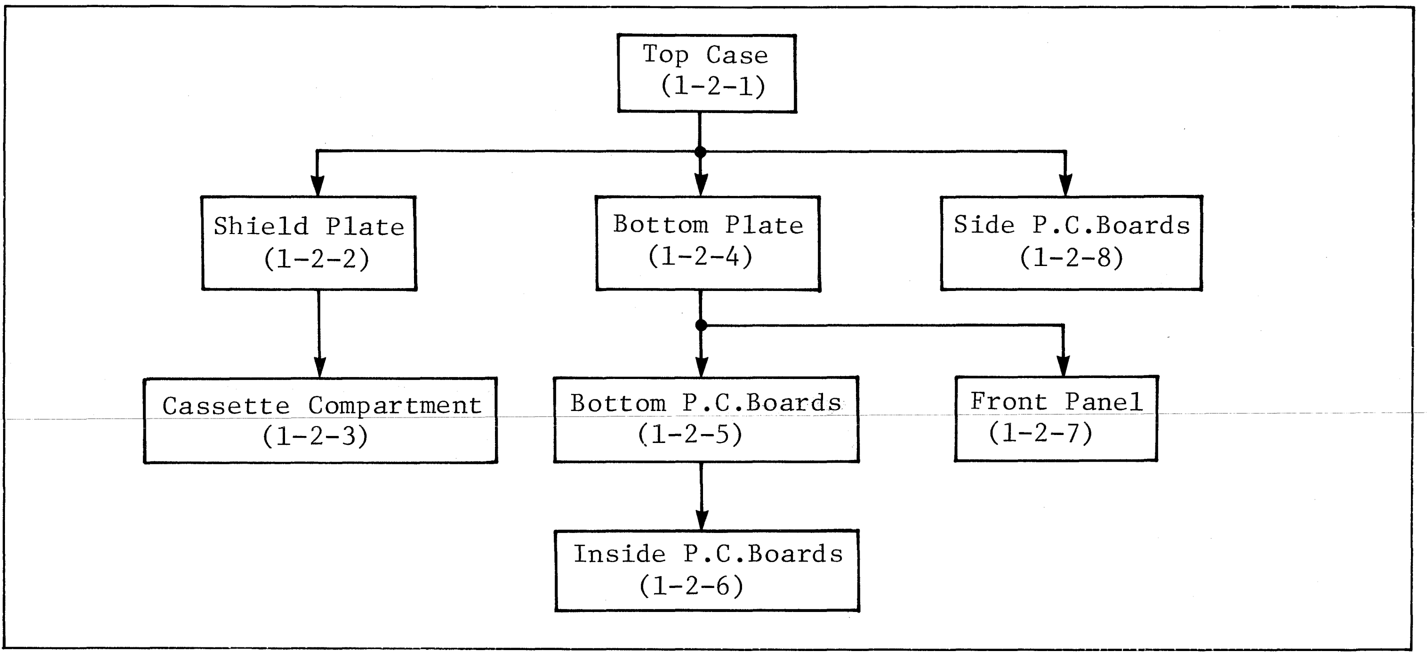

Top Case (1-2-1)
Shield Plate (1-2-2)
Bottom Plate (1-2-4)
Side P.C.Boards (1-2-8)
Cassette Compartment (1-2-3)
Bottom P.C.Boards (1-2-5)
Front Panel (1-2-7)
Inside P.C.Boards (1-2-6)

Fig. M1

1-2. Detailed Disassembly Method

1-2-1. Removal of the Top Case.

1. Unscrew the 4 screws (A) in the rear panel of the Top Case. (Fig. M2)
2. Carefully list the rear of the case and slide it off the back of the unit.

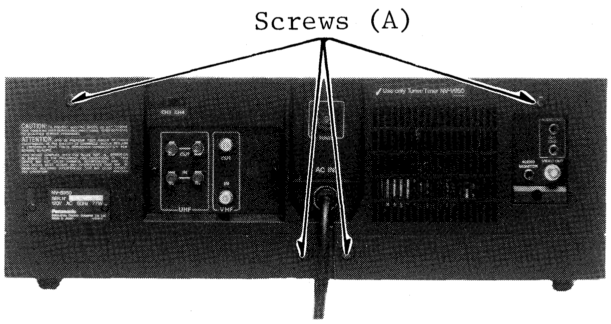


Fig. M2

1-2-2. Removal of the Shield Plate.

1. Unscrew the 5 screws (B) from the Shield Plate. (Fig. M3)
2. Carefully lift the Shield Plate out.

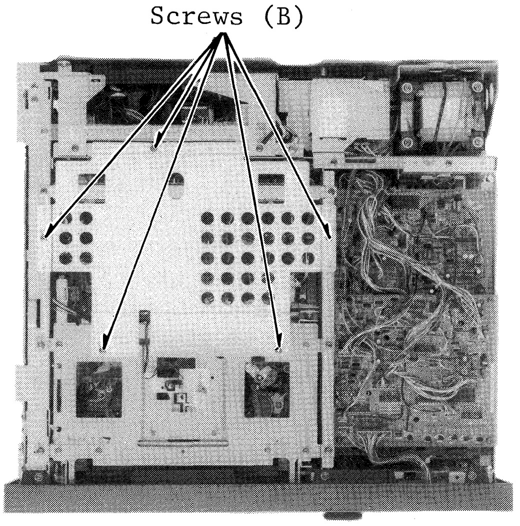


Fig. M3

1-2-3. Removal of the Cassette Compartment.

1. Unscrew the 4 screws (C) from the Cassette Compartment. (Fig. M4)
2. Carefully lift the Cassette Compartment out.

Note: Do not disconnect connector P1514.

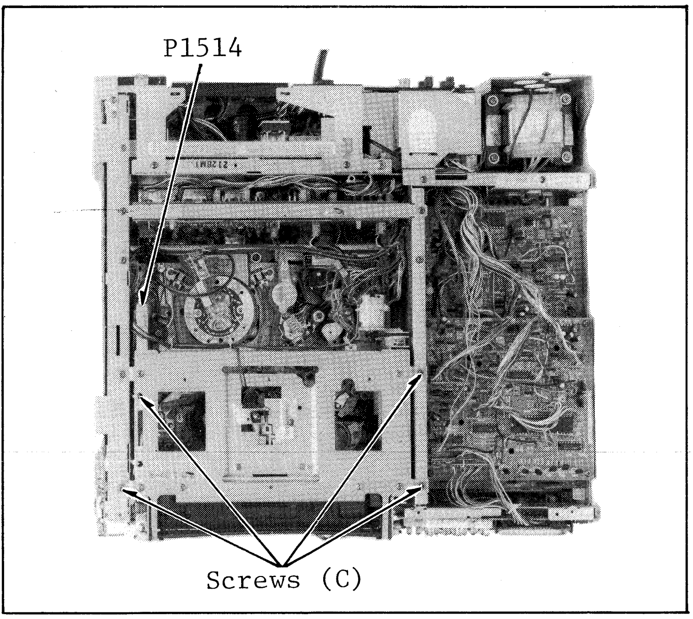


Fig. M4

1-2-4. Removal of the Bottom Plate.

1. Unscrew the 5 screws (D). (Fig. M5)
2. Unscrew the 1 screw (E) with the saw-tooth washer.
3. Lift off the Bottom Plate.

Note: Do not remove the 4 rubber feet from the Bottom Plate.

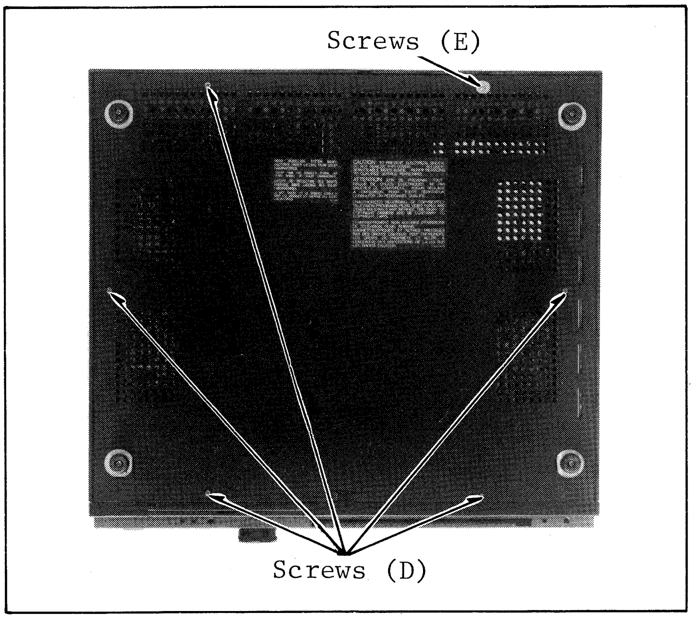


Fig. M5

1-2-5. Opening of the Bottom Circuit Boards. (Servo circuit board and Luminance & Chrominance circuit board.)

1. Unscrew the 6 screws (F) from the Bottom Circuit Boards. (Fig. M6)
2. Open up the Bottom Circuit Boards.

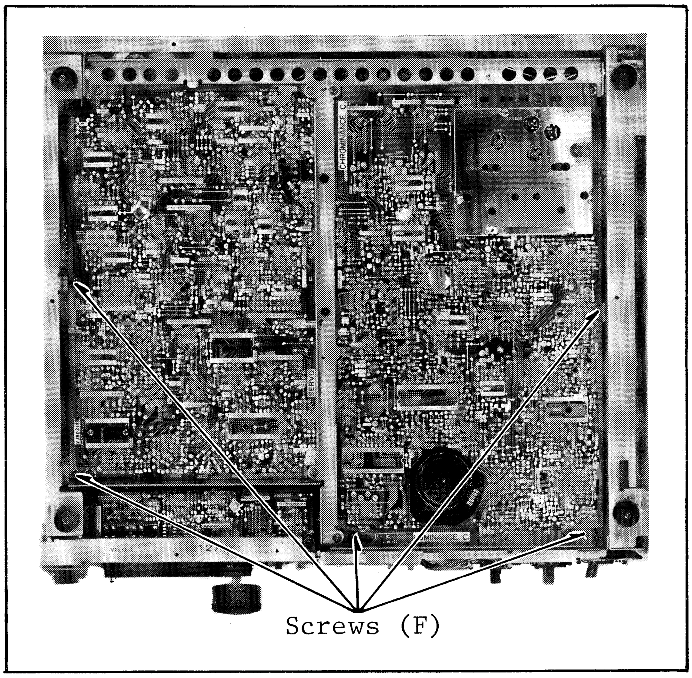


Fig. M6

1-2-6. Removal of the Inside Circuit Boards. (V-Dancing Comp (II) circuit board and Sub-System Control (III) circuit board.)

* Removal of the V-Dancing Comp (II) Circuit Board.
1. Unlock the 2 locking tabs (A). (Fig. M7)
2. Carefully remove the circuit board from the unit.

Note: Do not remove connectors P3701 and P3702.

* Removal of the Sub-System Control (III) Circuit Board.
1. Unscrew the 2 screw (G). (Fig. M7)
2. Carefully slide the circuit board out from the unit.

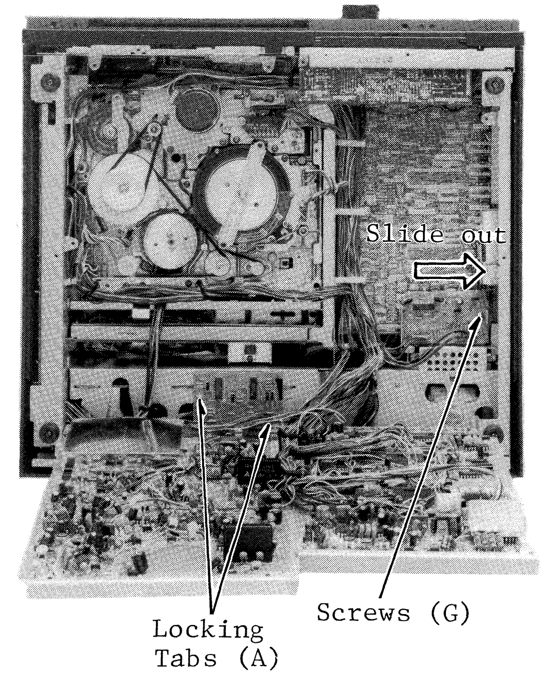


Fig. M7

1-2-7. Removal of the Front Panel.

1. Pull the Search Dial off the Front Panel.
2. Unscrew the 5 screws (H). (Fig. M8)
3. Grasp the top of the Front Panel and carefully pull the panel off the unit.

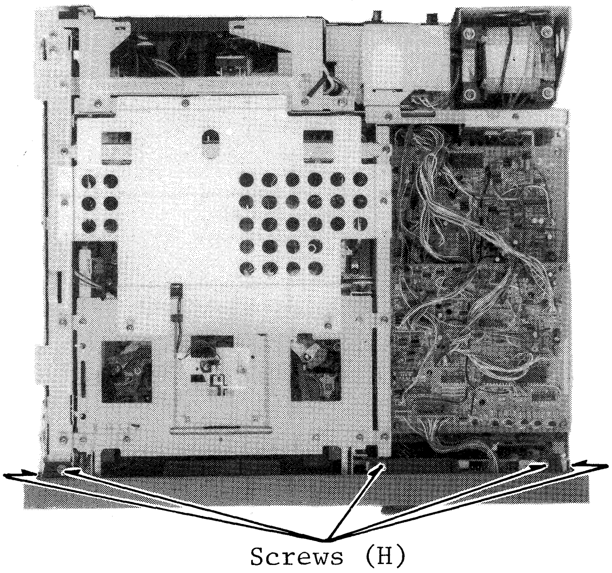


Fig. M8

1-2-8. Opening of the Side Circuit Boards. (Remaining Tape Time Display & Sub-System Control (II) Circuit Board, Pattern Generator Circuit Board and System Control Circuit Board.)

* Opening of the Tape Remaining Time Display & Sub-System Control (II) Circuit Board.

1. Unscrew the 4 screws (I) from the circuit board. (Fig. M9)
2. Lift the circuit board out from the unit.

* Opening of the Pattern Generator circuit board.

1. Unscrew the 2 screws (J) from the circuit board. (Fig. M9)
2. Pull the circuit board out from the unit.

* Opening of the System Control Circuit Board.

1. Unscrew the 2 screws (K) from the circuit board. (Fig. M9)
2. Pull the circuit board out from the unit.

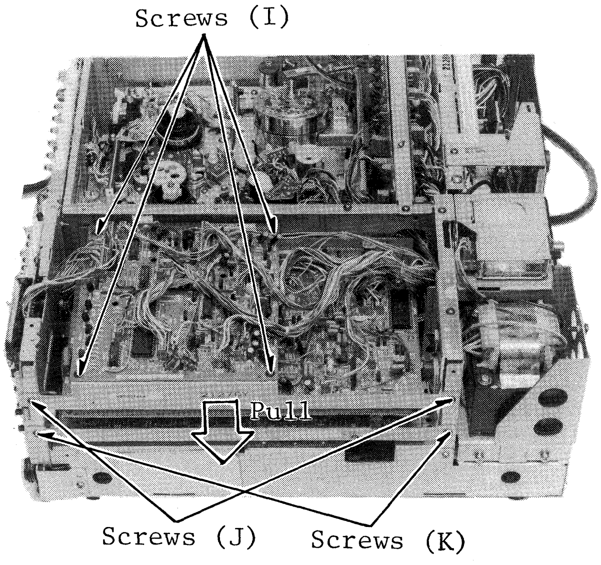


Fig. M9

2. MECHANICAL MAINTENANCE PROCEDURES

2-1. Replacement of the Upper Cylinder Unit.

Notes:

a. Work with extreme care when removing or replacing the Upper Cylinder Unit.

b. Do not touch the video heads. They are extremely fragile and can be damaged easily.

c. Be sure the AC Power Cord is disconnected before starting the procedure.

1. Remove the Top Case, Shield Plate and Cassette Compartment. (Refer to the Disassembly Method on page 2-1.)
2. Unscrew the screw (A) securing the Brush Unit and remove the Brush Unit (Fig. M10).

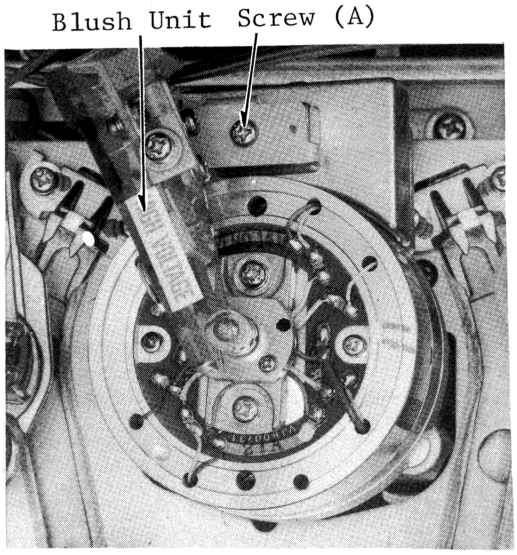


Fig. M10

3. Unsolder the 2 lead wires (B) from the Head Relay Board (Fig. M11).
4. Unscrew the 2 screws (C) from the Head Relay Board (fig. M11).
5. Unsolder the 8 lead wires (D) from the Head Relay Board (Fig. M12).
6. Lift the Upper Cylinder Unit out from the unit.
7. Clean the flange, bottom and rotating surfaces of the new Upper Cylinder Unit with a soft cloth dampened with alcohol or freon.
8. Install the new Upper Cylinder Unit so that the 8 lead wires (D) are properly matched to the color-coded wires on the Head Relay Board.

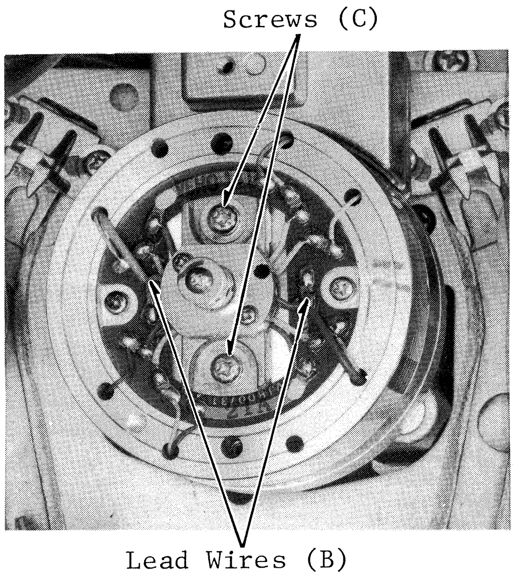


Fig. M11

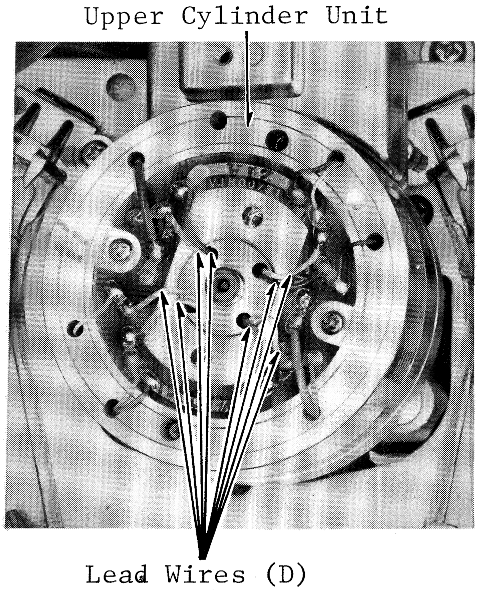


Fig. M12

9. Resolder the 8 lead wires (D) to the Head Relay Board (Fig. M12).
10. Replace and tighten the 2 screws (C).
11. Resolder the 2 lead wires (B) to the Head Relay Board.
12. Reinstall the Brush Unit and tighten the screw (A).

Note: Upon completion of the replacement procedure, check the performance of the new Upper Cylinder Unit. If further adjustment is necessary, refer to Item 3-5, "Tape Interchangeability Adjustment", on page 2-8.

2-2. Replacement of the D.D Cylinder Unit.

Note:
a. Work with extreme care when replacing or removing the D.D. Cylinder Unit.
b. Do not touch the video heads. They are extremely fragile and can be damaged easily.

1. Remove the Top Case, Shield Plate, Cassette Compartment and Bottom Plate, and open up the Bottom Circuit Boards. (Refer to the disassembly Method on page 2-1).
2. Disconnect connector P001. (Fig. M13)

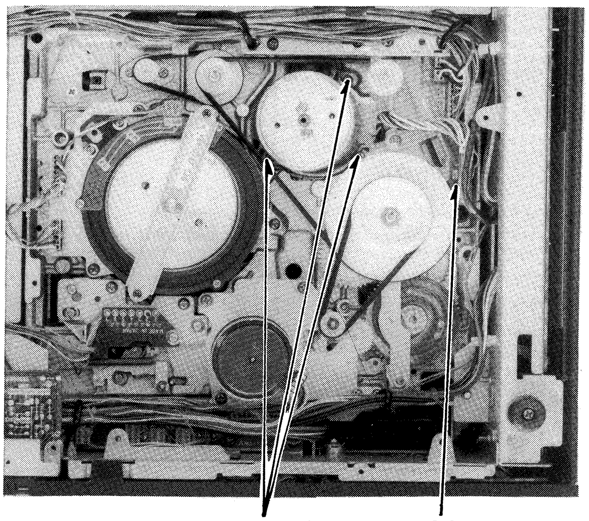


Fig. M13

3. Unscrew the screw (A) securing the Brush Unit and remove the Brush Unit as shown in Fig. M10.
4. Unscrew the 3 screws (B).
5. Carefully lift out the D.D. Cylinder Unit.
6. Remove the Upper Cylinder Unit from the D.D. Cylinder and install it on the new D.D. Cylinder. (Refer to Item 2-1, "Replacement of the Upper Cylinder Unit", on page 2-4.)
7. Install the new D.D. Cylinder.
8. Reinstall the Brush Unit and tighten the screw (A).
9. Reconnect connector P001.

Note: After completing the replacement procedure, check the performance of the new D.D. Cylinder Unit. If further adjustments are necessary, refer to Item 3-5, "Tape Interchangeability Adjustment", on page 2-8.)

3. ADJUSTMENT PROCEDURES

3-1. Adjustment of the Safety Switch.

Note: This adjustment is required only when the Safety Switch has been replaced or the mounting screw loosened.

* Equipment Required:
Cassette Holder Fixture
.... (VFKS0004)

1. Remove the Top Case, Shield Plate and Cassette Compartment. (Refer to the Disassembly Method on page 2- 1 .)
2. Place the Cassette Holder Fixture on the Reel Tables.
3. Slightly loosen the 2 screws (A) securing the Safety Switch (about 1/2 turn). (Fig. M14)
4. Turn the base of the Safety Switch fully clockwise, then slowly counterclockwise until the switch clicks on. (Fig. M14).
5. Tighten the 2 screws (A).

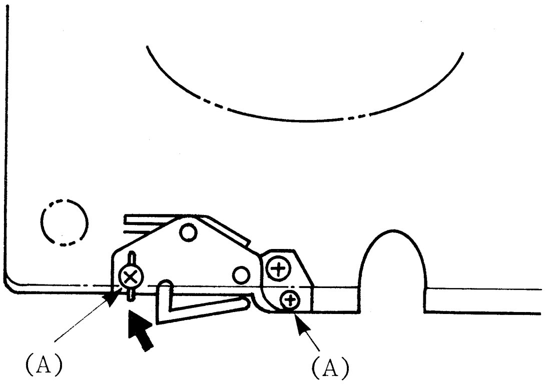


Fig. M14

3-2. Adjustment of the Reel Table Heights.

* Equipment Required:
Post Adjustment Plate .....(VFKS0010)
Reel Table Height Gauge ...(VFKS0009)
* Specification ....0.1mm±0.1mm

1. Remove the Top Case, Shield Plate and Cassette Compartment.(Refer to the Disassembly Method on page 2-1.)
2. Place the Post Adjustment Plate on the Reel Tables.
3. Place the Reel Table Height Gauge on the plate so that the foot of the gauge touches the bottom of the plate cutout and set the gauge to zero (Fig. M15).

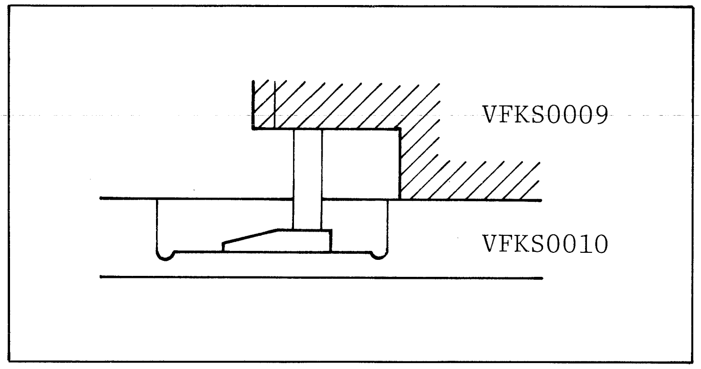


Fig. 15

4. Set the foot of the gage on the top of each Reel Table and note the difference in height from the Post Adjustment Plate cutout. It should be less than 0.1 mm higher or lower (Fig. M16).

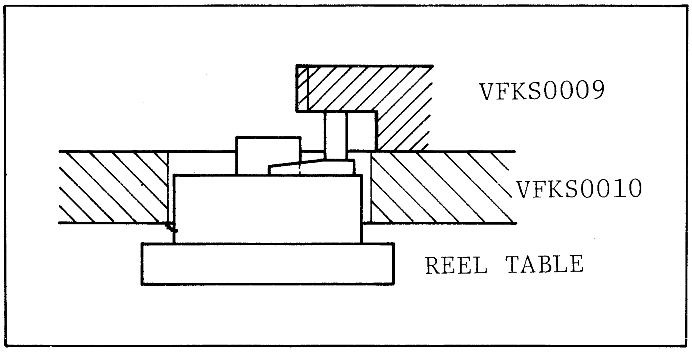


Fig. 16

5. If the difference in height is more than 0.1mm higher or lower, replace the poly slider washer located under the Reel Table with the appropriate thicker or thinner washer in order to bring the height of the Reel Table within specification. Poly Slider washers are available in thicknesses of 0.13mm, 0.25mm and 0.5mm.

3-3. Adjustment of the V-Stoppers.

* Equipment Required:
V-Stopper Adjustment Fixture
......(VFKS0007)

1. Remove the D.D. Cylinder Unit with the attached Upper Cylinder Unit from the chassis. (Refer to Item 2-2, "Replacement of the D.D. Cylinder unit", on page 2-4.)
2. Loosen the 4 screws (A) securing the V-Stoppers (Fig. M17).

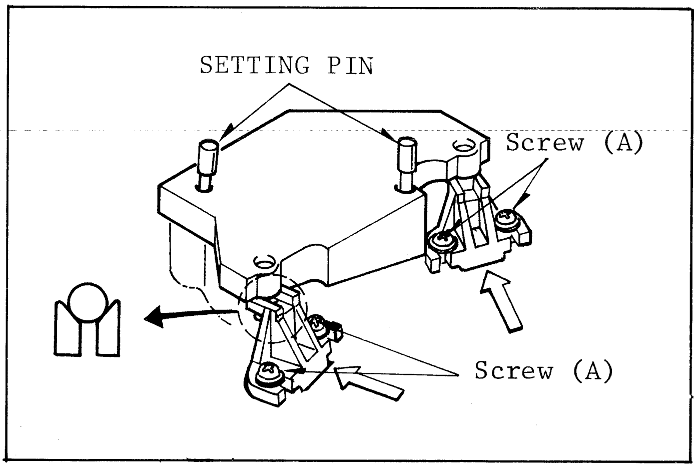


Fig. M17

3. Place the V-Stopper Adjustment Plate on the chassis so that the two fixed plate pins face the V-Stoppers (Fig. M17).
4. Secure the V-Stopper Adjustment Plate to the chassis with the 2 setting pins (Fig. M17).
5. Push the V-Stoppers snugly against the fixed plate pins and tighten the 4 screws (A) (Fig. M17).
6. Remove the V-Stopper Adjustment Fixture.
7. Simulate the loading completion mode. The Loading Posts should fit smoothly and snugly against the V-Stoppers.
8. Check the adjustment of the Tension Post. (Refer to Item 3-6, "Adjustment of the Tension Post", on page 2-11.)
9. Reinstall the D.D. Cylinder Unit and check the tape interchangeability. (Refer to Item 3-5, "Tape Interchangeability Adjustment.", on page 2-8.)

3-4. Adjustment of the Tape Guide Posts.

* Equipment Required:

Hex Wrench	(VFK0146)
Post Adjustment Plate	(VFKS0010)
Reel Table Height Gauge ...	(VFKS0009)
Nut Driver(purchase locally)	
Post Adjustment Screwdriver	(VFK0137)

1. Remove the Top Case, Shield Plate and Cassette Compartment. (Refer to the Disassembly Method on page 2-1.)
2. Place the Post Adjustment Plate on the Reel Tables (Fig.M18).

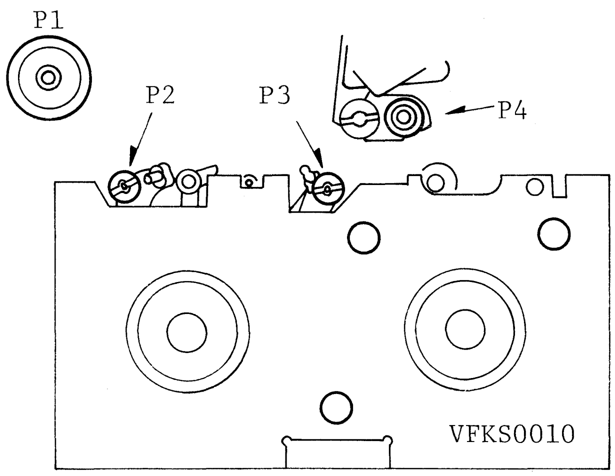


Fig. M18

3. Loosen the hex screw located under the lower tape guides on Tape Guide Posts P2 and P3.
4. Turn the Post Cap on Tape Guide Post P4 counterclockwise and remove the cap.
5. Lower all 4 Tape Guide Posts until the lower tape guides are below the level of the Post Adjustment Plate. Lower Tape Guide Posts P2 and P3 by turning the top of each post with the Post Adjustment Screwdriver. Lower Tape Guide Posts P1 and P4 by turning the top of the posts with the nut driver (Fig.M19).

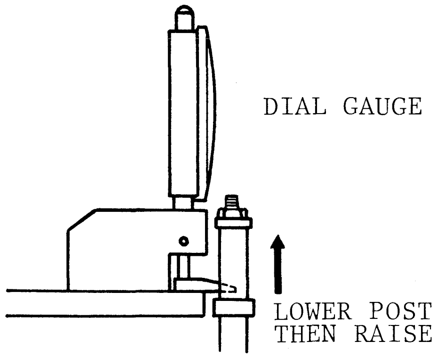


Fig. M19

6. Place the Reel Table Height Gauge on the Post Adjustment Plate and lower the foot of the gauge until it touches the plate.
7. Place the foot of the gauge against one of the posts so that the side of the foot rests against the side of the post (Fig. M20).
8. Set the gauge to zero ("0").
9. Slowly raise the post until the lower tape guide just touches the foot of the gauge and the needle of the gauge begins to move.
10. Repeat this procedure for the other 3 Tape Guide Posts.
11. Tighten the hex screws on Posts P2 and P3.

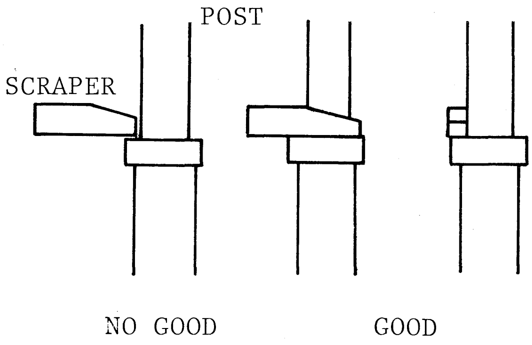


Fig. M20

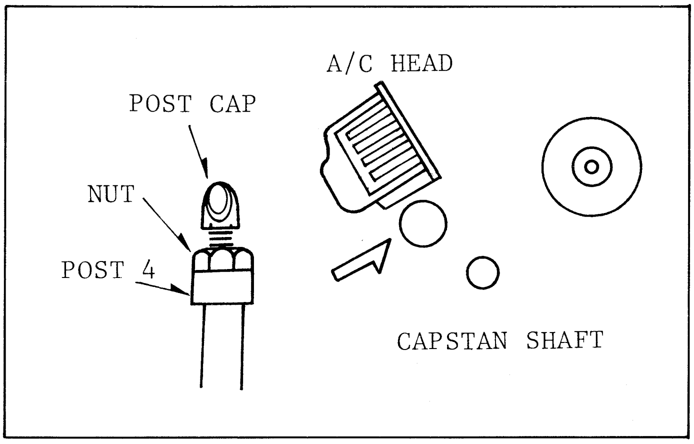


Fig. M21

12. Replace the Post Cap on post P4 so that the cap faces the back of the unit (Fig. M21).

3-5. Tape Interchangeability Adjustment.

The following procedures are a series of confirmation and adjustment procedures concerning Tape Interchangeability. Before performing any of these procedures, be sure that the tracking control is set in the center detent, or fixed, position.

* Equipment:

VHS Alignment tape	(VFM8080H6, VFM8080H2)
Post Adjustment Screwdriver	(VFK0137)
H-Position Adjustment Screwdriver	(VFKS0003)
0.9mm Hex Wrench	(VFK0146)
1.5mm Hex Wrench	(VFK76)
Oscilloscope	
7mm Nut Driver	(purchase locally)

3-5-A. Confirmation of Tape Travel.

To protect the alignment tape from possible damage, use a regular cassette tape for this procedure.

1. Play back the regular cassette tape.
2. Check the movement of the tape along the entire tape path. The tape should travel smoothly with curling at the edges (Fig. M22).

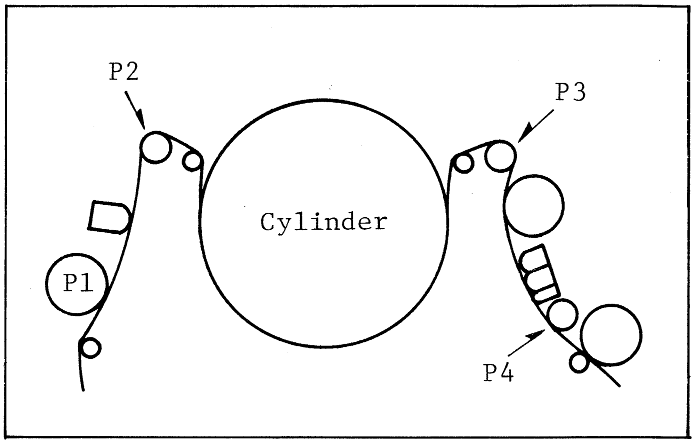


Fig. M22

3. If the tape curls at the top edge, raise the Tape Guide Posts. If the tape curls at the bottom edge, lower the Tape Guide Posts. Use the Post Adjustment Screwdriver to adjust posts P2 and P3, and the nut driver to adjust posts P1 and P4. Be sure to slightly loosen the hex screws on posts P2 and P3 before attempting to adjust them (Fig. M23).

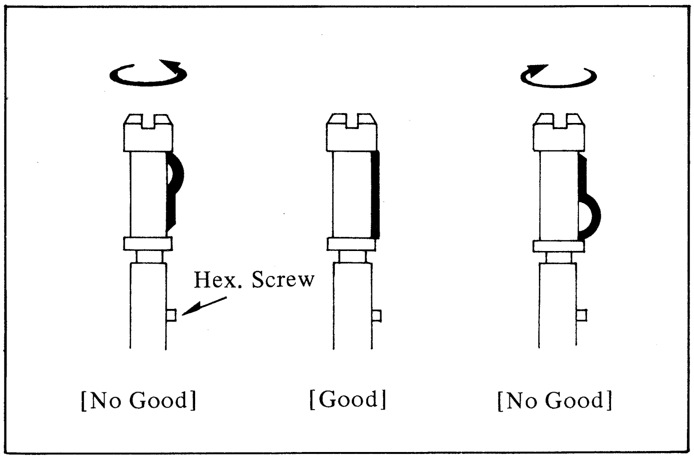


Fig. M23

3-5-B. Confirmation of the A/C Head Height.

This procedure is a preliminary adjustment of the A/C Head height which should only be performed when the A/C Head is replaced. The final adjustment of the A/C Head height can be found in the following Item, 3-5-C, "Adjustment of the A/C Head".

1. Play back a regular cassette tape. Do not use the alignment tape as it may be damaged during the adjustment procedure.
2. Look at the lower edge of the Control Head. The lower edge of the tape should run along the lower edge of the Control Head (Fig. M24).

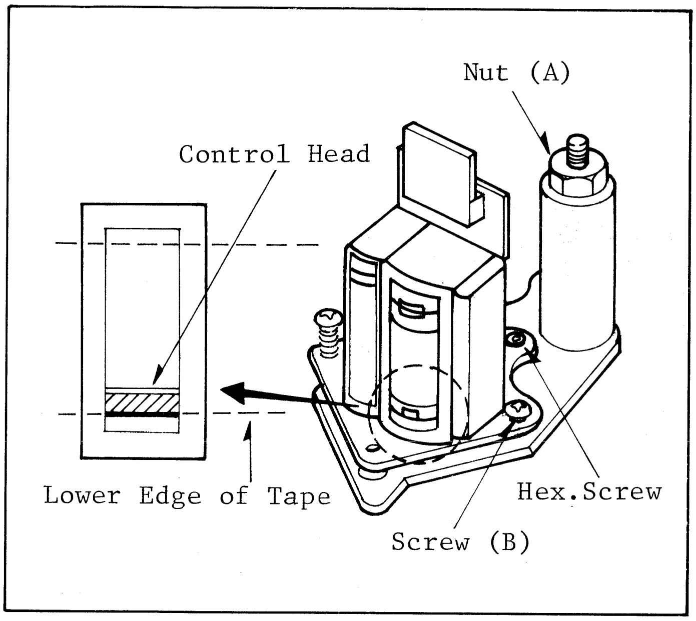

Nut (A)
Control Head
Lower Edge of Tape
Hex.Screw
Screw (B)

Fig. M24

3. If it isn't, slightly turn the nut (A) behind the A/C Head in either direction to raise or lower the A/C Head until the lower edge of the tape runs along the lower edge of the Control Head (Fig. M24).

3-5-C. Adjustment of the A/C Head Height.

1. Connect the oscilloscope to the Audio output jack on the side of the deck.
2. Play back the 6kHz audio monoscope portion of the alignment tape.
3. Adjust the height of the A/C Head by turning the screw (A) so that the audio output level on the oscilloscope is maximized (Fig. M25).

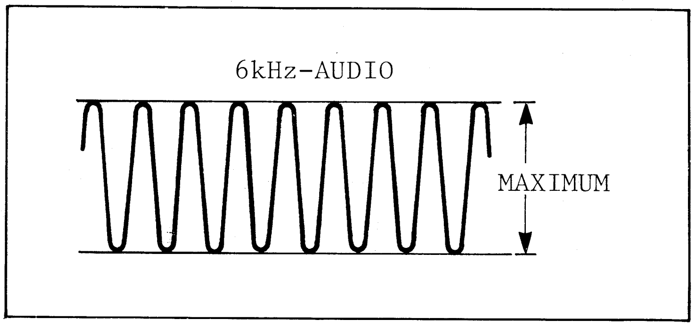

6kHz-AUDIO
MAXIMUM

Fig. M25

3-5-D. Confirmation of the A/C Head Tilt.

This procedure should only be performed after adjusting the height of Post P4.

1. Play back a regular cassette tape. Do not use the alignment tape as it may be damaged during the adjustment procedure.

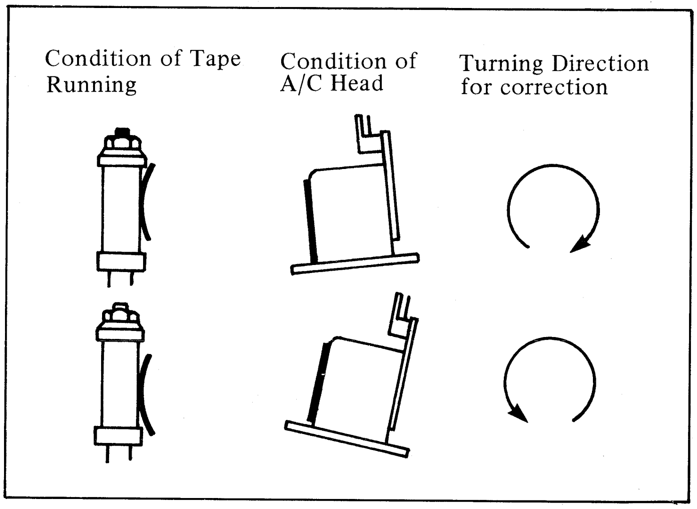

Condition of Tape Running
Condition of A/C Head
Turning Direction for correction

Fig. M26

2. Check the condition of the tape at post P4. It should run smoothly between the upper and lower tape guides without waving or frilling.
3. If there is waving or frilling at either the top or bottom edge of the tape, correct it by roughtly adjusting the tilt of the A/C Head with the hex screw located behind the head on the A/C Head Base (Fig. M26).

3-5-E. Adjustment of the A/C Head Horizontal Position.

1. Connect the oscilloscope to test point TP3011 on the Luminance & Chrominance circuit board.
2. Play back the monoscope portion of the alignment tape.
3. Check the shape of the envelope on the oscilloscope display.
4. If adjustment is required, use the H-Position Adjustment Screwdriver to turn the Adjustment Nut in front of the A/C Head in either direction until the envelope output is maximized (Fig. M27).

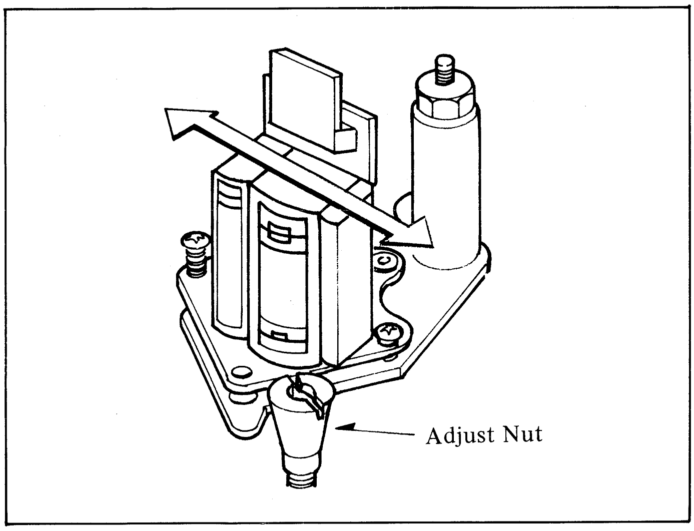
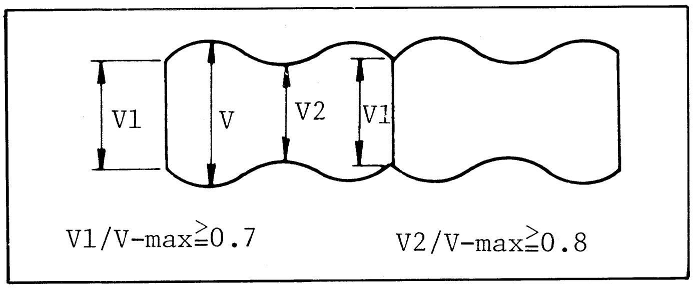


Fig. M27

3-5-F. Confirmation/Adjustment of the RF Envelope Output.

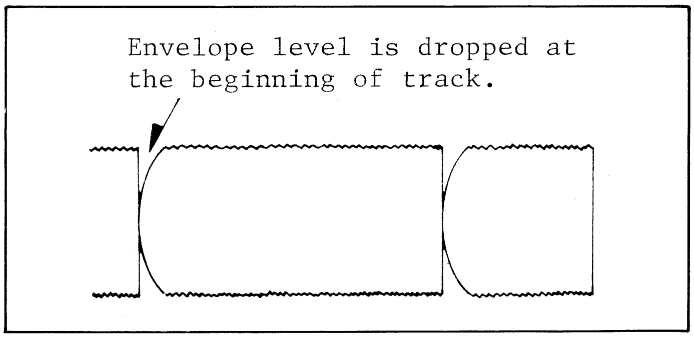
1. Connect the oscilloscope to test point TP3011 on the Luminance & Chrominance circuit board.
2. Play back the monoscope portion of the alignment tape.
3. Adjust the height of posts P2 and P3 until the RF envelope figure on the oscilloscope display is as flat as possible (Fig. M28). Use the Post Adjustment Screwdriver to adjust the posts. Be sure to slightly loosen the hex screws on the posts before attempting to adjust them.



V1/V-max≧0.7 V2/V-max≧0.8

Fig. M28

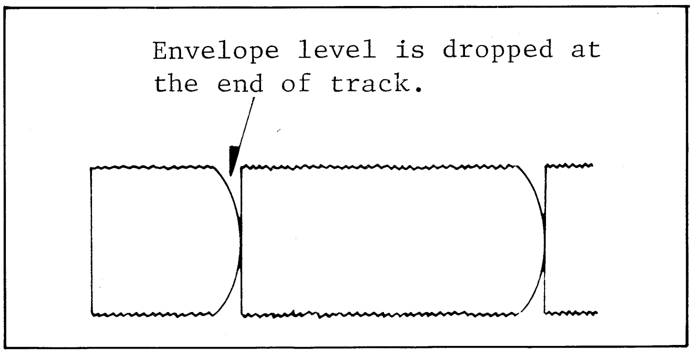
4. If the envelope level drops at the beginning of the track (Fig. M29), adjust the height of post P2.



Envelope level is dropped at the beginning of track.

Fig. M29

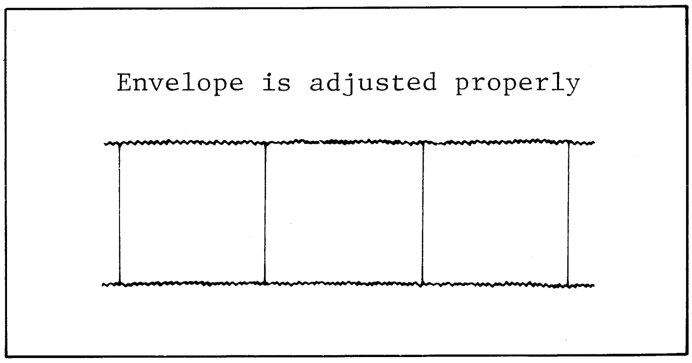
5. If the envelope level drops at the end of the track (Fig. M30), adjust the height of post P3.



Envelope level is dropped at the end of track.

Fig. M30

6. Properly adjusted, the envelope should be flat at both ends (Fig. M31).



Envelope is adjusted properly

Fig. M31

3-6. Adjustment of the Tension Post.

* Equipment Required:
Tension Post Adjustment Plate .... (VFKS0002)
Fine Adjustment Screwdriver .... (VFK0136)

1. Remove the Top Case, Shield Plate, Cassette Compartment and Bottom Plate, and open up the Bottom Circuit Boards. (Refer to the Disassembly Method on page 2-1.)
2. Viewing from the bottom side, slowly turn the Large Pulley counterclockwise by hand until the unit is in the Play mode position (Fig. M32).

Note: Do not use excessive force to turn the pully.

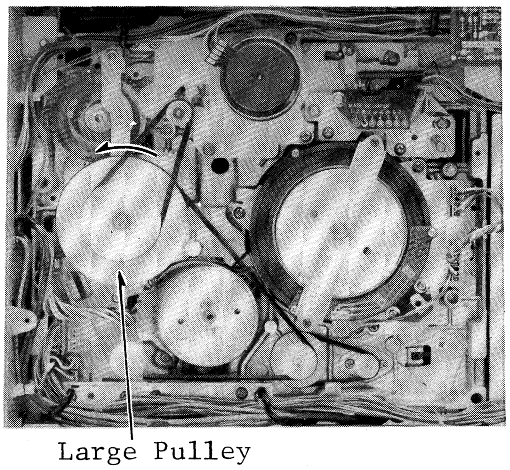


Fig. M32

3. Place the Tension Post Adjustment Plate on the Reel Tables.
4. Slightly loosen the screw securing the Tension Band Bracket. (Fig. M33).
5. Insert the Fine Adjustment Screwdriver into the adjustment hole next to the screw and adjust the Tension Band Bracket so that the Tension Post just touches the Tension Post Adjustment Plate (Fig. M33).

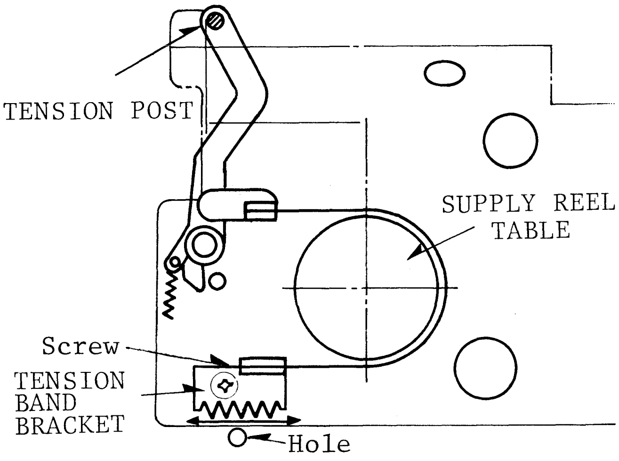


Fig. M33

3-7. Measurement and Adjustment of the Back Tension.

A. Measurement Procedure

* Equipment:
Back Tension Meter (Tentelometer, Model T2-H7-UM, purchase locally)
120-Minute VHS Cassette Tape.

1. Remove the Top Case and Shield Plate. (Refer to the Disassembly Method on page 2-1.)
2. Pull the Erase Head out away from the tape path and secure it with a piece of masking tape. (Fig. M34)
3. Playback the cassette tape, which recorded in SP mode, from the beginning.

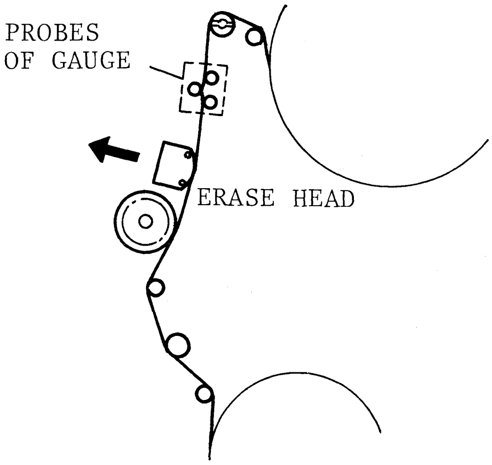


Fig. M34

4. Wait approx. 10 seconds for the movement of the tape to stabilize, then insert the Back Tension Meter over the tape between the Erase Head and Tape Guide Post P2.
   Make sure that all three meter probes are in good contact with the tape, but do not touch any part of the unit.
5. Take 3 separate readings. This is because the tension meter is very sensitive and there may be one or two false readings.
6. If the readings are not between 25 and 30 grams, the Back Tension must be adjusted.

B. Adjustment Procedure

* Equipment:
Fine Adjustment Screwdriver
.... (VFK0136)

1. Remove the Cassette Compartment (Refer to Item 1-2-3 of the Disassembly Method on page 2-1.)
2. Open the Tape Protector on the video cassette half as shown below.

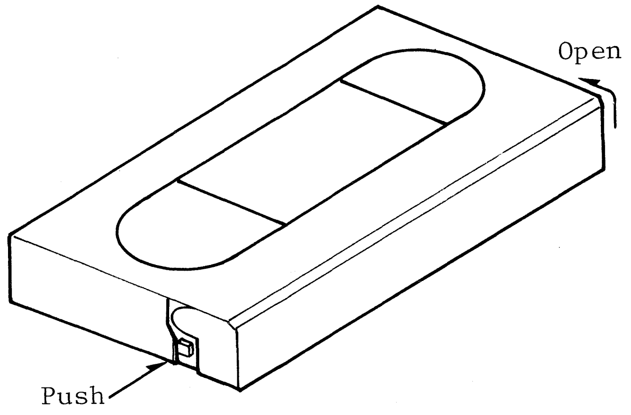


Fig. M35

3. Place the above cassette tape over the reel tables as shown below.

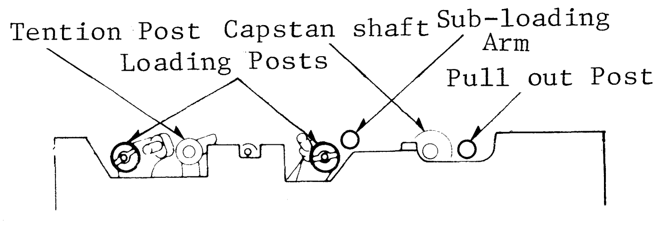


Fig. M36

4. Turn the Power Switch ON.
5. Turn the cassette detect switch (A) on, and pull the cassette up unit till the micro-switch (B) to off. Then move the cassette compartment as down position and the deck reaches sub-loading condition.
6. Playback the cassette tape and insert the tension meter over the tape.
7. Loosen the screw (A) and insert the Fine Adjustment Screwdriver into the adjustment hole (B) next to the screw.

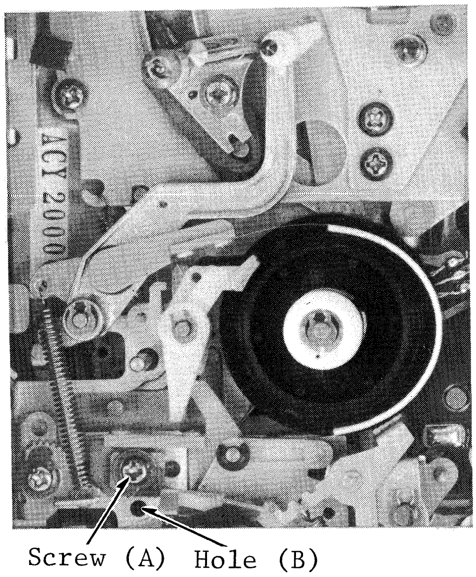


Fig. M37

8. Move the adjustment plate in either direction until the tension meter reading is between 25 and 30 grams. Turn the screwdriver clockwise to lower the tension, and counterclockwise to raise it.
9. Tighten the screw (A).
10. Verify the new tension by taking another reading. If it is not between 25 and 30 grams, repeat the adjustment procedure.
11. Remove the piece of masking tape from the Erase Head.

3-8. Adjustment of the Pull-Out Post Height

Notes:
1. The adjustment should be performed only after adjusting Tape Guide Post P4, as the height of the Pull-Out Post is based on the height of Post P4.
2. This adjustment should be performed with the unit in the Loading Completion mode.
3. Unplug the AC power cord when replacing or adjusting the Pull-Out Post.

* Equipment Required:
Post Adjustment Plate .... (VFKS0010)
Reel Table Height Gauge .. (VFKS0009)
Nut Driver (purchase locally)

* Specification:
0.005mm ± 0.01mm

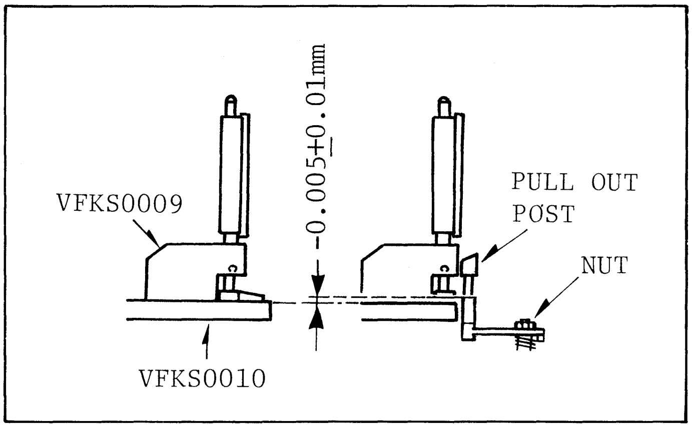


Fig. M38

1. Remove the Top Case, Shield Plate, Cassette Compartment and Bottom Plate, and open up the Bottom Circuit Boards. (Refer to the Disassembly Method on page 2-1.)
2. Turn the large pulley till the unit is in the Loading Completion position.
3. Place the Post Adjustment Plate on the Reel Tables.
4. Place the Reel Table Height Gauge. Lower the foot of the gauge so that it touches the plate, and set the gauge to zero ("0") (Fig. M38).
5. Slightly lower the Pull-Out Post by turning the adjustment nut on the post clockwise with the nut driver.
6. Place the foot of the gauge against the post so that the side of the foot rests against the side of the post (Fig. M39).

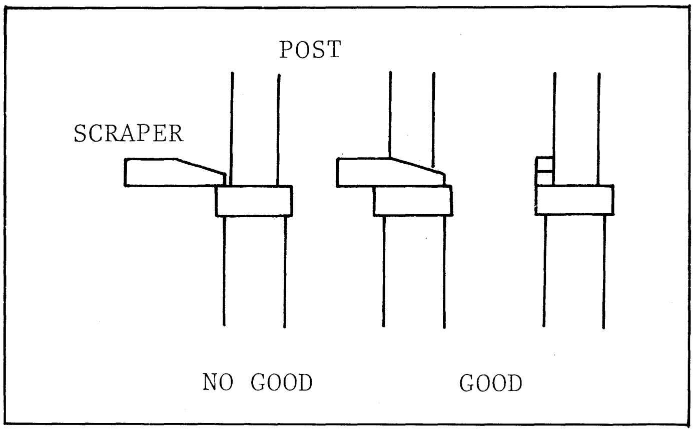


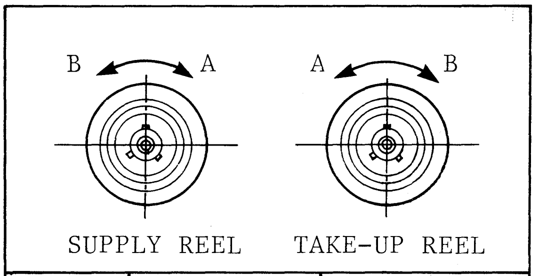
Fig. M39

7. Slowly turn the adjustment nut counterclockwise until the gauge indicates -0.005mm ± 0.01mm.

3-9. Confirmation/Adjustment of the Brake Torque.

A. Confirmation Procedure

* Equipment Required:
Dial Torque Gauge .... (VFK0133)
Adaptor For the Dial Torque Gauge .... (VFK0134)



	A	B
TAKE-UP	450∿800g-cm	70∿150g-cm
SUPPLY		

Fig. M40

1. Place the unit in the Stop mode.
2. Attach the Adaptor to the Dial Torque Gauge and place the gauge on either Reel Table. Support the gauge in your hand so that the weight of the gauge does not rest directly on the Reel Table (Fig. M41).

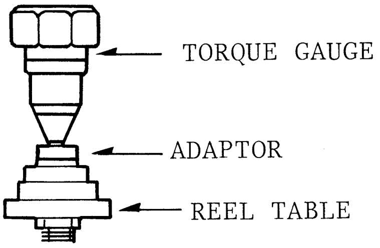


Fig. M41

3. Turn the gauge clockwise and take a reading just as the brake begins to slip.
4. Turn the gauge counterclockwise and take another reading just as the brake begins to slip.
5. Repeat this procedure for the other Reel Table.
6. Compare the readings with the specifications shown in Fig. M40. If the readings are out of specification, the Brake Torque must be adjusted.

B. Adjustment Procedure.

1. To adjust the Brake Torque, change the setting of the spring on the Brake Lever Unit beside the Reel Table. (Fig. M42).
   a. Increase the torque by moving the spring to an outer notch.
   b. Decrease the torque by moving the spring to an inner notch.

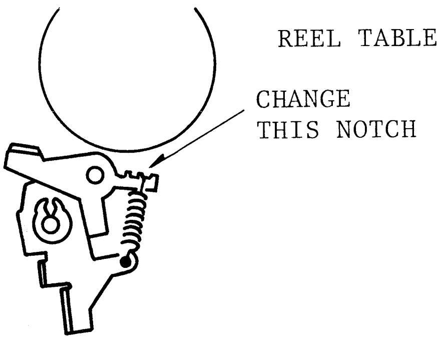


Fig. M42

2. If the brake torque cannot be properly adjusted by moving the Brake Lever Unit spring, clean the Reel Table braking surface with a soft cloth and remeasure the brake torque.
3. If the brake torque is still out of specification, replace the Brake Lever Unit.

3-10. Adjustment of the Sub-Loading Arm Unit.

* Equipment Required:
Eccentric Screwdriver .... (VFK0135)
Phillips Screwdriver ("+").

* Specification:
t = 0.5mm ± 0.1mm

1. Remove the Top Case, Shield Plate, Bottom Plate and Cassette Compartment, an open up the Bottom Circuit Boards. (Refer to the Disassembly Method on page 2-1.)
2. Turn the Large Pulley in the COUNTER-CLOCKWISE direction unit the unit is in the FF/REW position.
3. Loosen the screw (B). (Fig. M42).
4. Insert the eccentric screwdriver into the adjustment hole (A) next to the screw and adjust the position of the Sub-Loading Arm Unit so that the gap "t" between the Sub-Loading Arm and the AC head is 0.5mm ± 0.1mm. (Fig. M43).

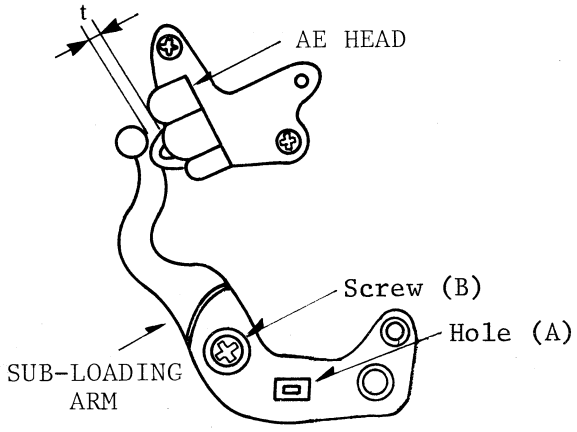


Fig. M43

3-11. Adjustment of Cam Gear and Mode Select Switch

General Condition:

The mechanism of this model is mostly engaged to the electrical circuit, System Control Circuit, through the mode select switch. Therefore the relation between the mode switch and the cam gear decides all further mechanical movement of the mechanical parts such as levers, gears, rollers and so on.
If the adjustment of this item is performed inproperly, the deck will be unloaded or compulsorily stopped. And it will result being damaged at any mechanical or electrical parts.

A. Adjustment Procedures of Cam Gear

1. Turn Loading gear clockwise until the post 2 and 3 were fully unloaded. The small projection on the loading gear will be top portion under the condition of Unloading Completion.

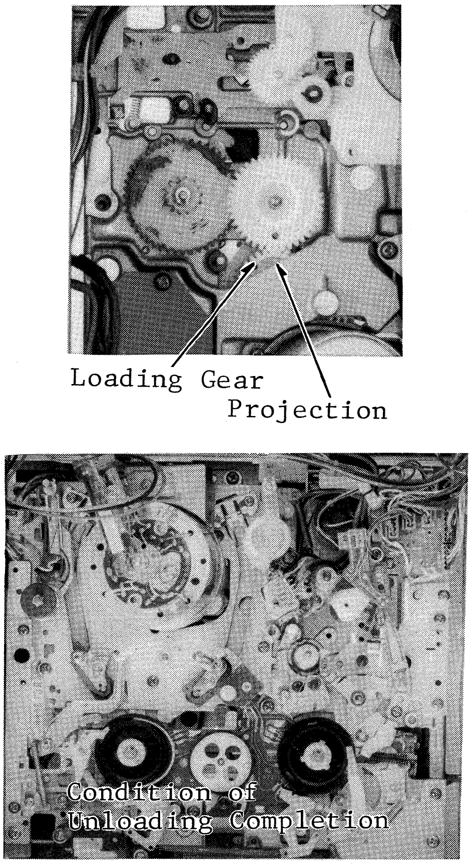

Loading Gear
Projection
Condition of
Unloading Completion

Fig. M44

2. Install the action gear so the hole on the action gear meets the projection on the loading gear. Ensure that the loading gear is still in the condition of the unloading completion.

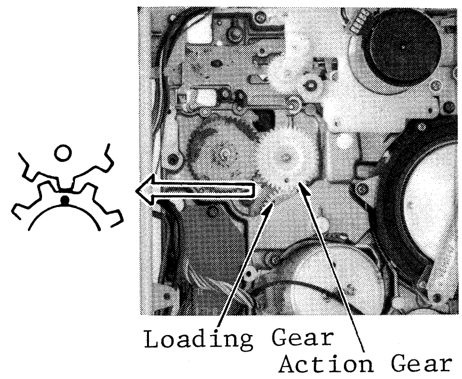

Loading Gear
Action Gear

Fig. M45

3. Insert the cam gear so the hole (A) on the gear meets the hole on the main rod. To meet the two holes easier, use the small hex. wrench (VFK75) or metal pin.

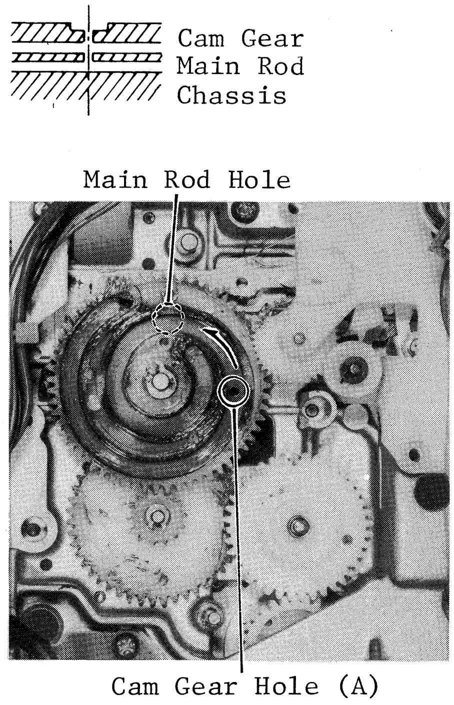

Cam Gear
Main Rod
Chassis
Main Rod Hole
Cam Gear Hole (A)

Fig. M46

4. Install the sector gear so the pin on the sector gear meets the inner slot of the cam gear (simple slot side). And install 2 retaining rings to mount cam gear and sector gear.

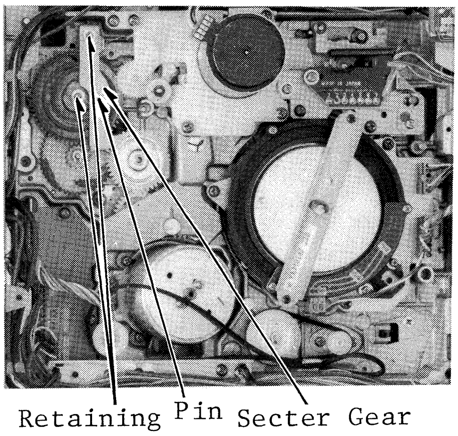

Retaining Rings
Pin
Secter Gear

Fig. M47

5. Final figure should become as shown below.

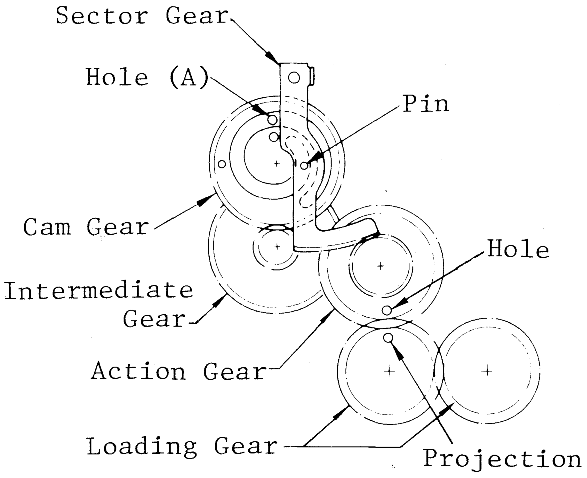

Sector Gear
Hole (A)
Pin
Cam Gear
Hole
Intermediate Gear
Action Gear
Loading Gear
Projection

Fig. M48

6. Install the gear protector and tighten the nut for mounting it. And install the large gear so the teeth of it contact the outer teeth of the intermediate gear. Then install a retaining ring to mount it.

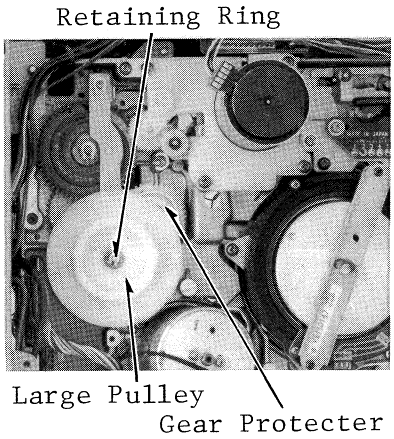

Retaining Ring
Large Pulley
Gear Protecter

Fig. M49

7. Install the belts and belt cover and tighten the screw (B). Turn the large pulley in both direction to confirm the smooth movement of this mechanizm.

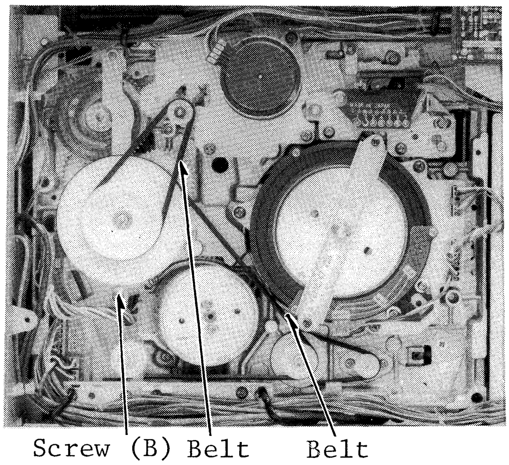

Screw (B)
Belt
Belt

Fig. M50

B. Adjustment Procedures of Mode Select Switch

* Equipment Required:
Fine Adjustment Screwdriver
.... (VFK0136)

1. Fix the main rod in the condition of unloading completion.
2. Slightly loosen two screws (A) and the fine adjustment screwdriver into the hole (B).

3. Turning the fine adjustment screwdriver, adjust the position of the mode select switch so that the two V-shaped marks of the mode select switch just correspond at the same position. Then tighten two screws (A).
4. Make sure that the movement of the deck is in normal condition.

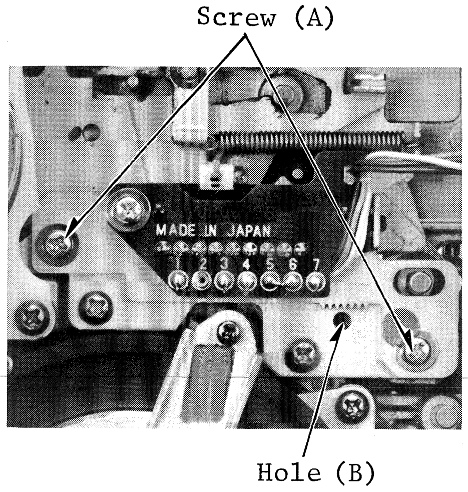
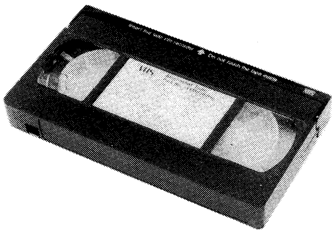

Screw (A)
MADE IN JAPAN
1 2 3 4 5 6 7
Hole (B)

Fig. M51

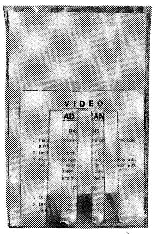
Servicing Fixtures & Tools

VFM8080H2 VHS Alignment Tape

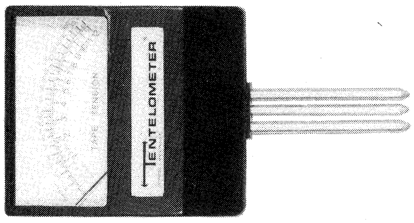


VFM8080H6 VHS Alignment Tape

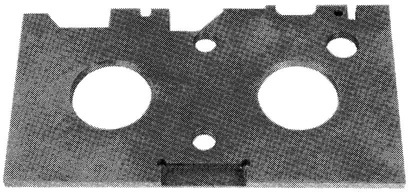
VFK27 Head CLeaning Stick



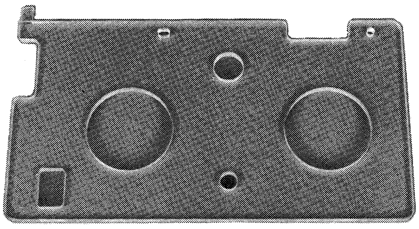
Back Tension Meter
(Tentelometer, Made in U.S.A.)



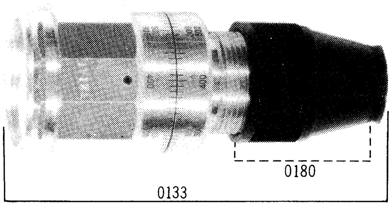
VFKS0010 Post Adjustment Plate



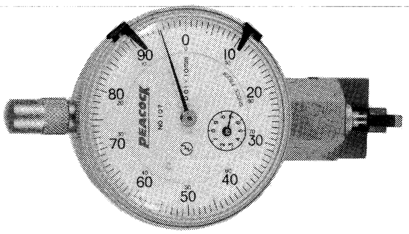
VFKS0002 Tension Post Adj. Fixture



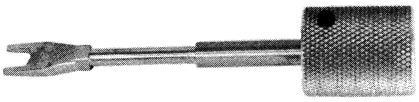
VFK0133 Dial Torque Gauge)
VFK0180 (Plastic Clamper Only)



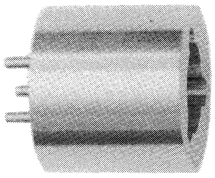
VFKS0009 Reel Table Height Fixture



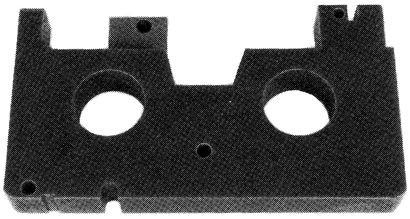
VFKS0003 H-Position Adj. Fixture



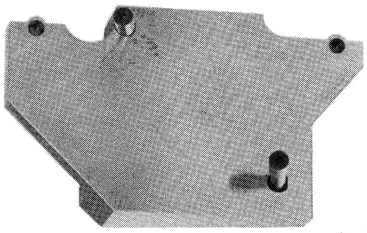
VFK0134 Adaptor for VFK0133



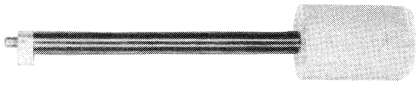
VFKS0004 Cassette Holder Fixture



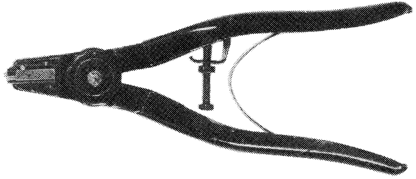
VFKS0007 V-Stopper Adj. Fixture



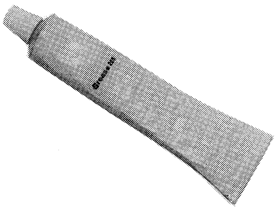
VFK0135 Eccentric Screwdriver



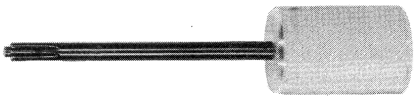
VFK0144 Retaining Ring Remover (3mmϕ)
VFK0145 Retaining Ring Remover (4mmϕ)



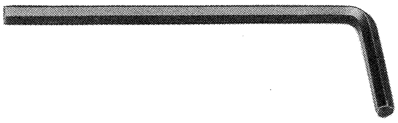
MOR265 Morlytone Grease



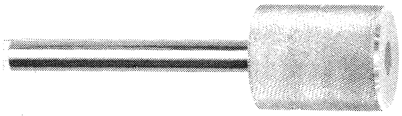
VFK0136 Fine Adjustment Screwdriver (3mmϕ)



VFK0146 Hex. Wrench (0.9mm)
VFK76 Hex. Wrench (1.5mm)



VFK0137 Post Adjustment Screwdriver



ELECTRICAL ADJUSTMENT PROCEDURES

Note:

This Chapter provides complete electrical adjustment procedures which are essential for satisfactory performance of the electronic circuit of video cassette recorder.

Test Equipment:

The following equipment will be needed to connectly perform the electrical adjustment procedures.

1. V.T.V.M (Vacuum Tube Volt Meter) or D.V.M (Digital Volt Meter)
   Voltage Range: 0.005 - 50V
2. Dual Trace Oscilloscope with Delay Function
   Voltage Range: 0.005 - 50V/div.
   Frequency Range: 20MHz
   Probes: 10:1 and 1:1
3. Frequency Counter
   Frequency Range: 0 - 10MHz
4. Signal Generator
   Split-Field Color Bar Signal Stair-step Signal
   Sinewave Signal: Frequency Range: 0 - 10MHz
5. Color TV/Monitor
6. Sweep Generator
7. Plastic Tip Driver
8. Alignment Tape (VFM8080H2, VFM8080H6)

Adjustment Procedures

1. POWER SUPPLY SECTION

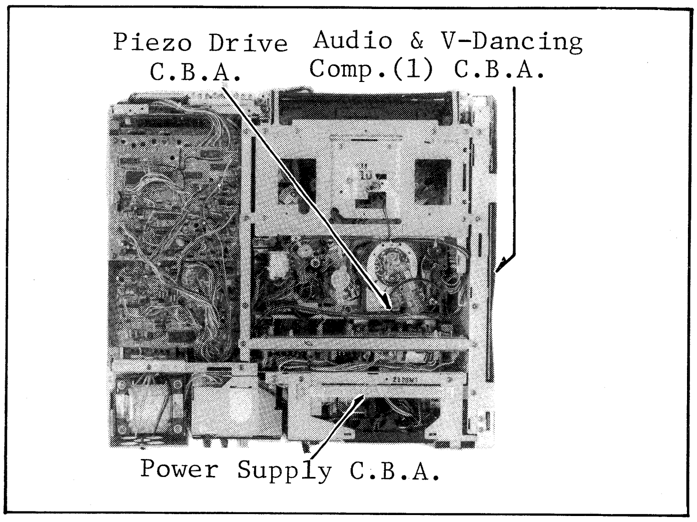

Piezo Drive C.B.A.
Audio & V-Dancing Comp.(1) C.B.A.
Power Supply C.B.A.

Fig. E1 Power Supply Section

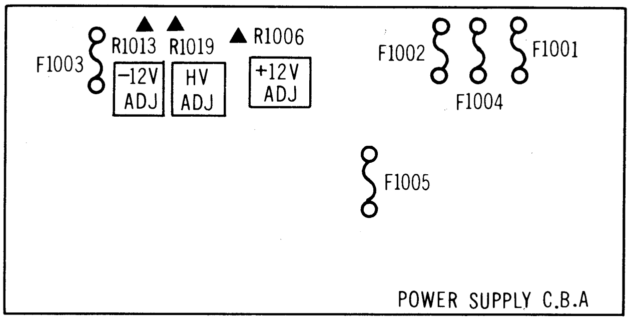

F1003
R1013
R1019
R1006
-12V ADJ
HV ADJ
+12V ADJ
F1002
F1001
F1004
F1005
POWER SUPPLY C.B.A

Fig. E2

1-1. +12V D.C. Adjustment

Test Point: TP3509 (AUDIO & V-DANCING COMP. (I) C.B.A.)
Adjustment: R1006 (POWER SUPPLY C.B.A.)

1. Set the unit in the STOP mode.
2. Connect the D.V.M to TP3509 on the Audio & V-Dancing Comp. (I) C.B.A.
3. Adjust the +12V ADJ (R1006) on the Power Supply C.B.A., to +12±0.1V.

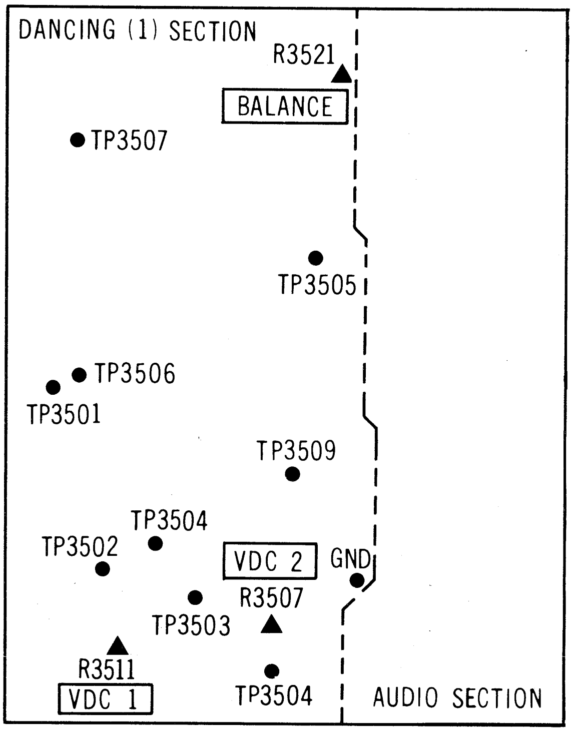

DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
AUDIO SECTION

Fig. E3

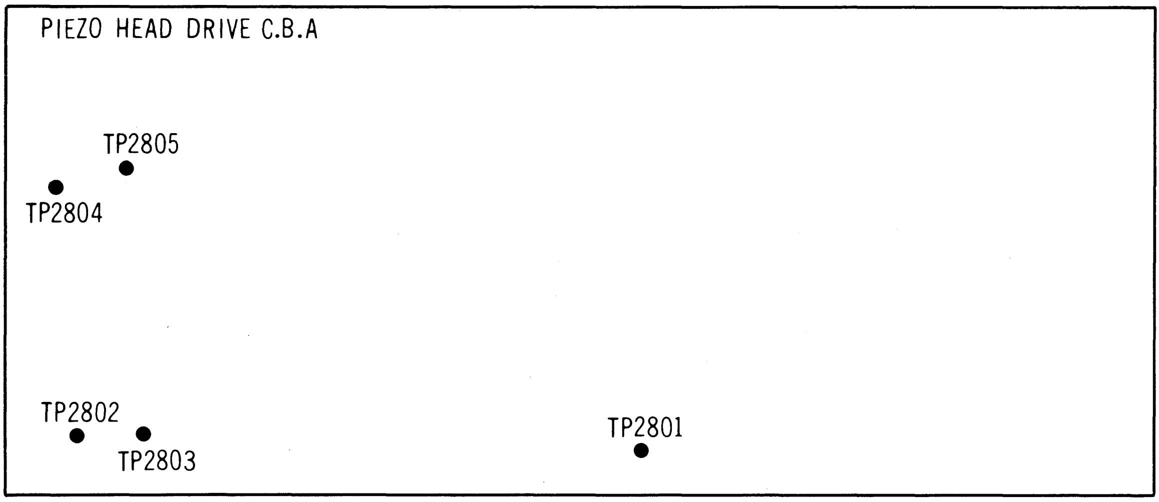

PIEZO HEAD DRIVE C.B.A
TP2805
TP2804
TP2802
TP2803
TP2801

Fig. E4

1-2. -12V D.C. Adjustment

Test Point: TP2801 (Piezo Drive C.B.A)
Adjustment: R1013 (Power Supply C.B.A)

1. Set the unit in the STOP Mode.
2. Connect the D.V.M. to TP2801 on the Piezo Drive C.B.A.
3. Adjust the -12V ADJ. (R1013) on the Power Supply C.B.A., to -12±0.1V.

1-3. +510V D.C. Adjustment

Test Points: TP2802, TP2803 (Piezo Drive C.B.A.)
Adjustment: R1019 (Power Supply C.B.A.)

1. Check the AC INPUT voltage. It should be rated value.
2. Connect a D.V.M to TP2802 on the Piezo Drive C.B.A.
3. Insert a cassette tape and push the Play button.
4. And push the Still button.
5. Adjust the +510V ADJ. (R1019) on the Power Supply C.B.A. to +510±5V.
6. Reconnect a D.V.M to TP2803 on the Piezo Drive C.B.A. and confirm that the voltage is -500 ∿ -530V.

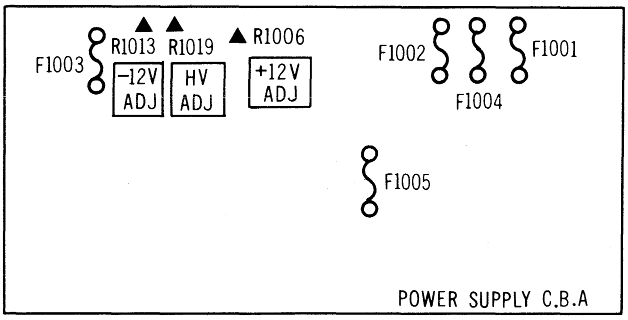

F1003
▲R1013
▲R1019
▲R1006
-12V ADJ
HV ADJ
+12V ADJ
F1002
F1001
F1004
F1005
POWER SUPPLY C.B.A

Fig. E5

2. SERVO SECTION

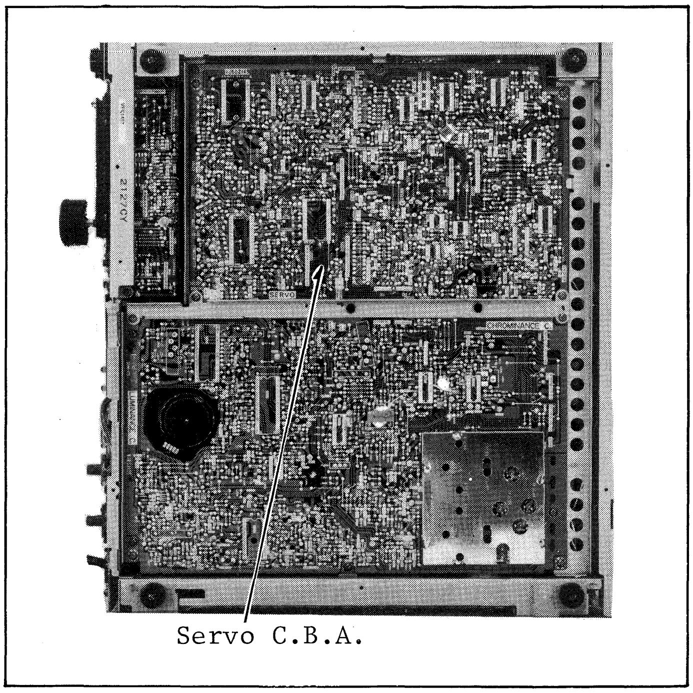

SERVO
CHROMINANCE
Servo C.B.A.

Fig. E6

2-1. Buffer O.S.C Frequency Adjustment

Test Point: TP2001 (Servo C.B.A.)
Adjustment: R2011 (Servo C.B.A.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP2001 on the Servo C.B.A.
3. Adjust the Buffer O.S.C resistor, R2011 on the same board, so that the "T" period is 17.5±0.1msec.

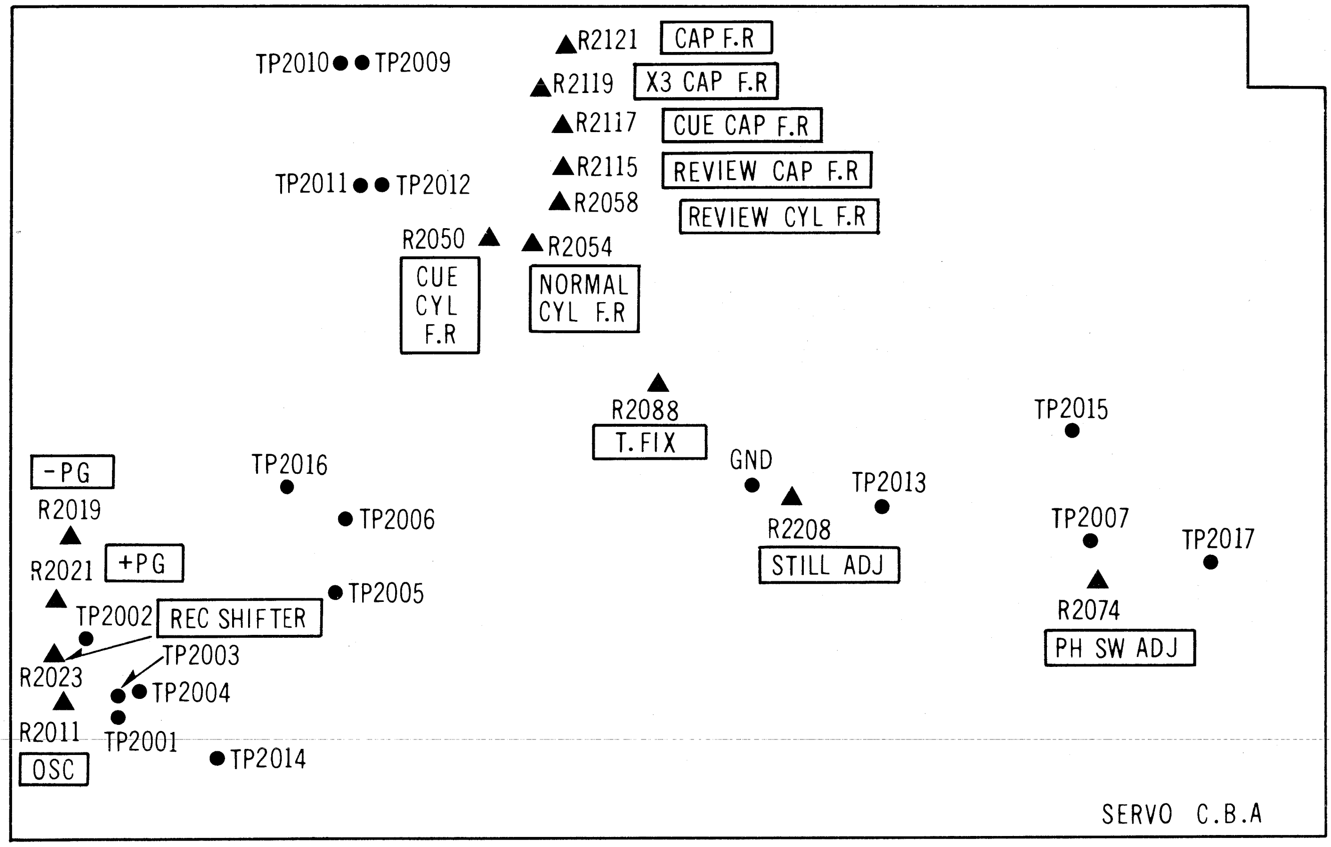

TP2010
TP2009
R2121
CAP F.R
R2119
X3 CAP F.R
R2117
CUE CAP F.R
TP2011
TP2012
R2115
REVIEW CAP F.R
R2058
REVIEW CYL F.R
R2050
R2054
CUE CYL F.R
NORMAL CYL F.R
R2088
T.FIX
TP2015
-PG
TP2016
GND
TP2013
R2019
TP2006
R2208
TP2007
TP2017
R2021
+PG
STILL ADJ
TP2005
R2074
TP2002
REC SHIFTER
PH SW ADJ
TP2003
R2023
TP2004
R2011
TP2001
OSC
TP2014
SERVO C.B.A

Fig. E7

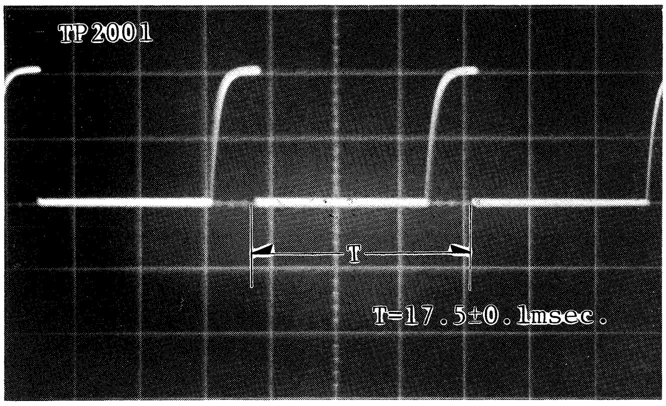

TP2001
T
T=17.5±0.1msec.

Fig. E8 (0.5V/5msec div.)

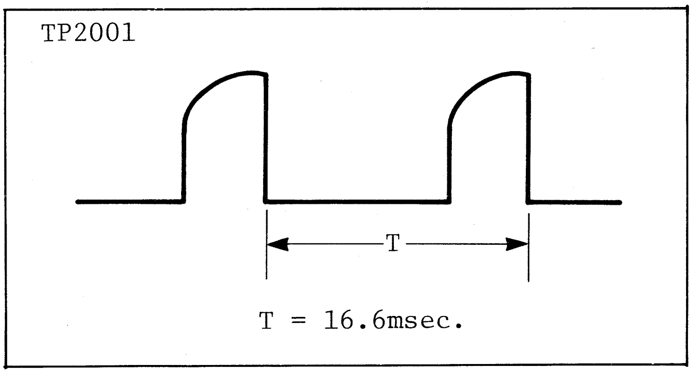

TP2001
T
T = 16.6msec.

Fig. E9

4. Set the INPUT SELECT SWITCH to LINE.
5. Supply an EIA pattern to the VIDEO INPUT on the front panel and confirm that the "T" is changed to 16.6msec.

2-2. Cylinder Free Run Adjustment

Test Points: TP2002, TP2003, TP2004, TP2006
(Servo C.B.A.)
Adjustments: R2058, R2050, R2054
(Servo C.B.A.)

A: REC PLAY mode

1. Set the INPUT SELECT SWITCH to LINE.
2. Supply an EIA pattern to the VIDEO INPUT on the front panel.
3. Connect the scope CH1 to TP2003 and CH2 to TP2002, both on the Servo C.B.A.
4. Insert a cassette and make a recording.

5. While recording is taking place make sure that both signals are synchronized on the scope. If they are not synchronized temporarily adjust the CYLINDER FREE RUN resistor, R2058 on the Servo C.B.A., until they are locked.

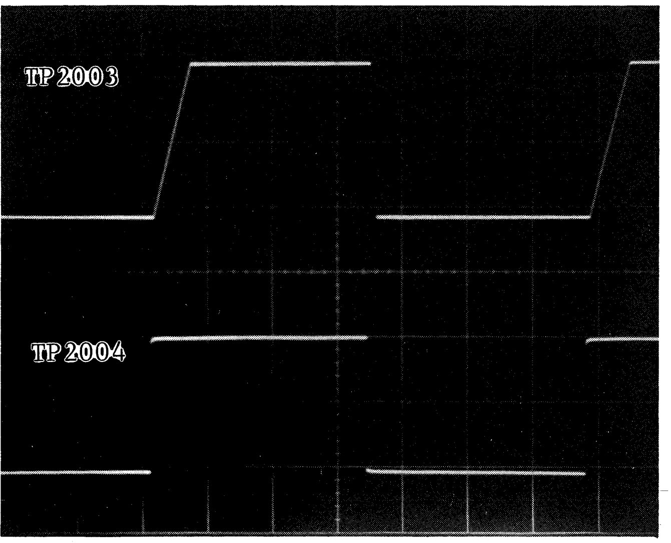


Fig. E10 (0.5V/5msec)

6. Connect a D.V.M. to TP2004 on the same board through the filter shown Fig. E11.

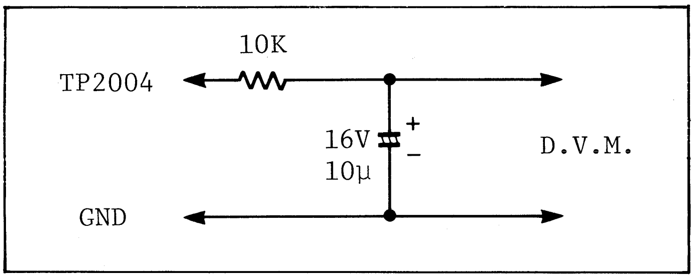


Fig. E11

7. Adjust the CYLINDER FREE RUN resistor, R2058 so that the voltage is 4.5 ± 0.1V.

B: PLAY SEARCH mode

1. Connect a frequency counter to TP2006 on the Servo C.B.A.
2. Insert a alignment tape (VFM8080H6) and set the unit in the Search mode.
3. Adjust resistors R2050, R2054 on the Servo C.B.A. so that the frequency is as shown in the chart(Fig. E12).

MODE	VR	FREQUENCY
CUE	R2050	243.5Hz ± 0.5Hz
REV	R2054	235.7Hz ± 0.5Hz

Fig. E12

2-3. Capstan Free Run Adjustment

Test Points: TP2010, TP2011, TP2012
(Servo C.B.A)
Adjustments: R2121, R2119, R2115, R2117
(Servo C.B.A)

A: REC·PLAY mode

1. Set the INPUT SELECT SWITCH to LINE.
2. Supply an EIA pattern to the VIDEO INPUT on the front panel.
3. Connect the scope CH1 to TP2011 and CH2 to TP2010 both on the Servo C.B.A.
4. Insert a cassette and make a recording.
5. While recording is taking place, make sure that both signals are synchronized on the scope. If they are not synchronized temperarily adjust the CAPSTAN FREE RUN resistor, R2121 on the Servo C.B.A., until they are locked.

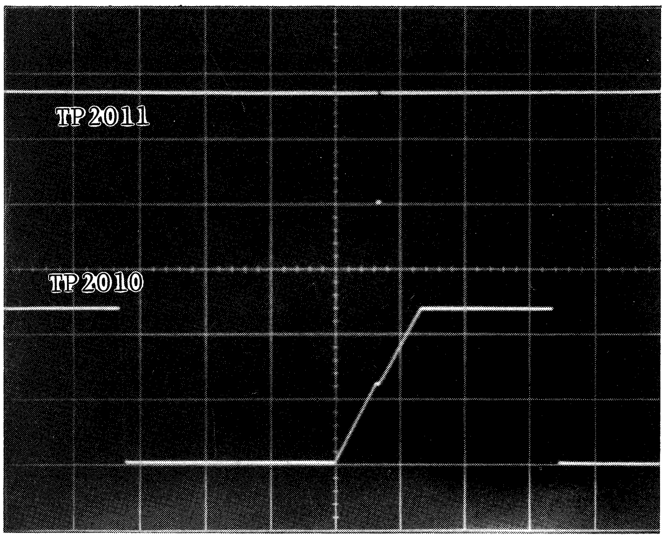


Fig. E13 (0.5V/5msec div.)

6. Connect a D.V.M. to TP2012 on the same board through the filter shown Fig. E14.

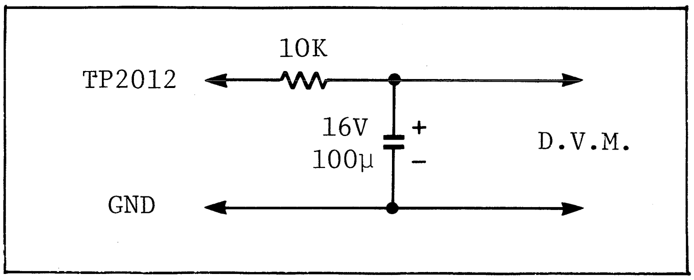


Fig. E14

7. Adjust the CAPSTAN FREE RUN resistor, R2121, so that the voltage is 5.0±0.2V.

B: PLAY SEARCH mode

1. Insert the alignment tape (VFM8080H6) and set the unit in the Search mode.
2. Adjust resistors R2115, R2117, on the Servo C.B.A. so that the voltage is as shown in the chart.

MODE	VR	VOLTAGE
CUE	R2115	5.0 ± 0.2V
REV	R2117	5.0 ± 0.2V

Fig. E15

2-4. PG Shifter Adjustment

Test Points: TP2002 (Servo C.B.A.)
TP3013, TP3016
(Luminance & Chrominance C.B.A.)
Adjustments: R2019, R2121
(Servo C.B.A.)

1. Playback the monoscope section of the alignment tape.
2. Connect the scope to TP3013 on the Luminance & Chrominance C.B.A.
3. Adjust the tracking VR so that the envelope size is maximized.
4. Connect the scope CH1 to TP3016 on the Luminance & Chrominance C.B.A. CH2 to TP2002 and EXT TRIG. to TP2002 on the Servo C.B.A.
5. Set the triggering slope of scope to the "+" side, and expand the V sync portion of the signal.
6. Adjust the PG SHIFTER B resistor, R2019, on the Servo C.B.A. so that the falling edge of switching pulse is 6H before the V sync portion.

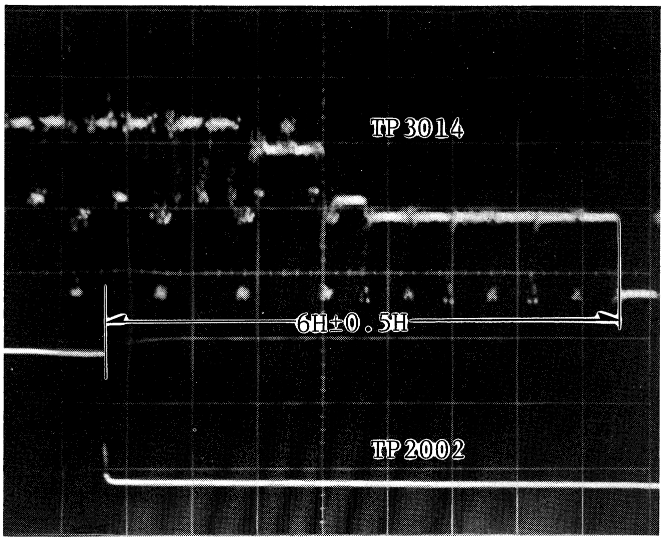


Fig. E16 UP: 50mV/50µsec div.
DOWN: 0.5V/50µsec div.

7. Change the scope selector on the scope from "+" to "-" side, and adjust the PG SHIFTER A resistor. R2021, on the same board, so that the rising edge of switching pulse is 6H before the V sync portions.
8. Adjust the switching pulse duty cycle by adjusting the PG SHIFTER A resistor, R2021, so that the difference between the two pulses is less than 10µsec. Refer to Fig. E17.

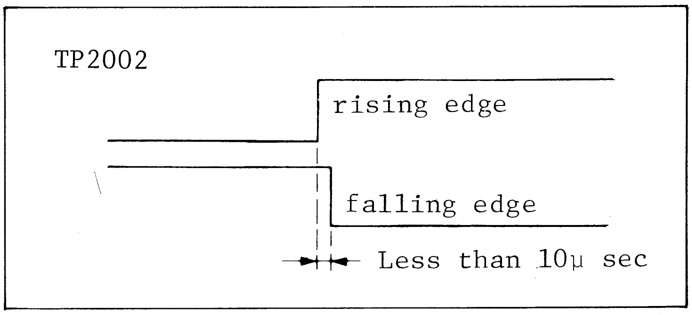


Fig. E17 Switching Edge Difference

2-5. REC Shifter Adjustment

Test Points: TP2002 (Servo C.B.A.)
TP3016 (Luminance & Chrominance C.B.A.)
Adjustment: R2023 (Servo C.B.A.)

1. Set the INPUT SELECT SWITCH to LINE.
2. Supply an EIA pattern to the VIDEO INPUT on the front panel.
3. Connect the scope CH1 to TP2002 on the Servo C.B.A. and CH2 to TP3016 on the Luminance & Chrominance C.B.A.
4. Insert a cassette and make a recording.
5. Set the scope in the CHOP mode and use TP2002 to trigger the socpe.
6. Make sure these waveforms are phase locked, then expand the V sync area of the signal.

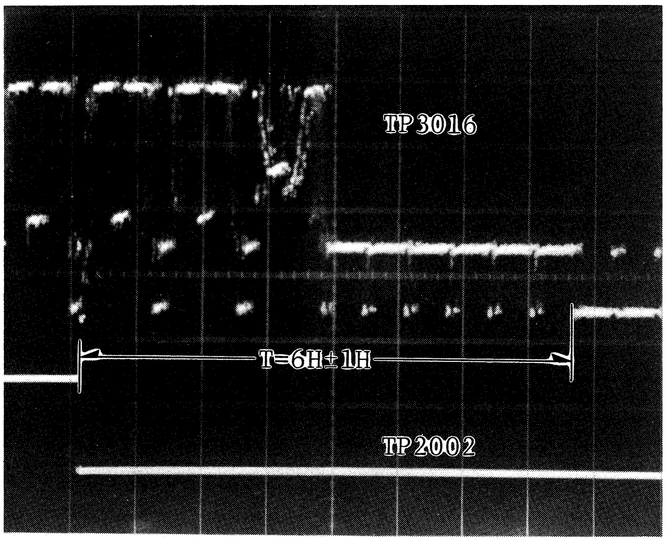


Fig. E18 UP: 50mV/50μsec div.
DOWN: 0.5V/50μsec div.

7. Adjust the REC SHIFTER resistor, R2023, on the Servo C.B.A., so that the "T" portion is 6H±1H.

2-6. Tracking Fix Adjustment

Test Points: TP2002, TP2009 (Servo C.B.A)
Adjustment: R2088 (Servo C.B.A.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Set the Tracking Control on the front panel to the center detent position.
3. Insert the alignment tape (VFM8080H2) and play back the monoscope pattern.
4. Connect the scope CH1 to TP2002 and CH2 to TP2009, both on the Servo C.B.A. Set the scope in the CHOP mode and use TP2009 to trigger the scope.
5. Adjust the TRACKING FIX resistor, R2088, on the Servo C.B.A. so that the "T" portion is 0.4msec± 0.1msec.

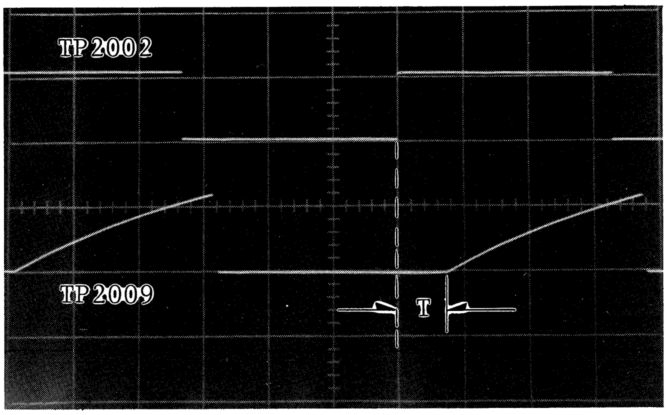


Fig. E19 (0.2V/1msec)

2-7. Still Voltage Adjustment

Test Point: TP2013 (Servo C.B.A.)
Adjustment: R2208 (Servo C.B.A.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Connect a D.V.M. to TP2013 on the Servo C.B.A.
3. Set the unit in the PLAY STILL mode.
4. Adjust the STILL V resistor R2208 on the Servo C.B.A. so that the voltage is -40mV±5mV.

2-8. MR-CTL Signal Level Adjustment

Test Point: TP2509 (Pattern Generator C.B.A.)
Adjustments: R2666, R2766 (Pattern Generator C.B.A.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP2509 on the Pattern Generator C.B.A.
3. Playback the monoscope section of alignment tape.

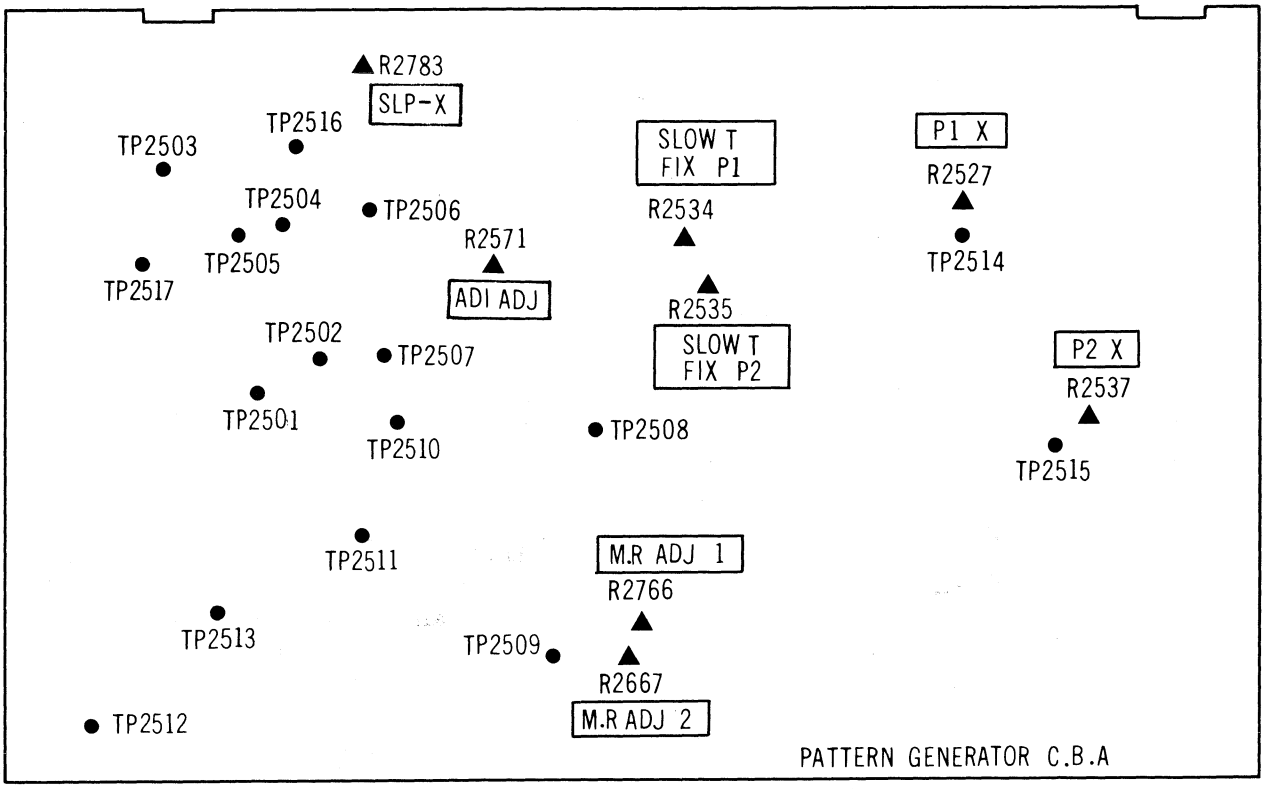

R2783
SLP-X
TP2516
TP2503
SLOW T FIX P1
P1 X
R2527
TP2504
TP2506
R2534
TP2505
R2571
TP2514
TP2517
ADJ ADJ
R2535
TP2502
TP2507
SLOW T FIX P2
P2 X
R2537
TP2501
TP2510
TP2508
TP2515
TP2511
M.R ADJ 1
R2766
TP2513
TP2509
R2667
M.R ADJ 2
TP2512
PATTERN GENERATOR C.B.A

Fig. E20

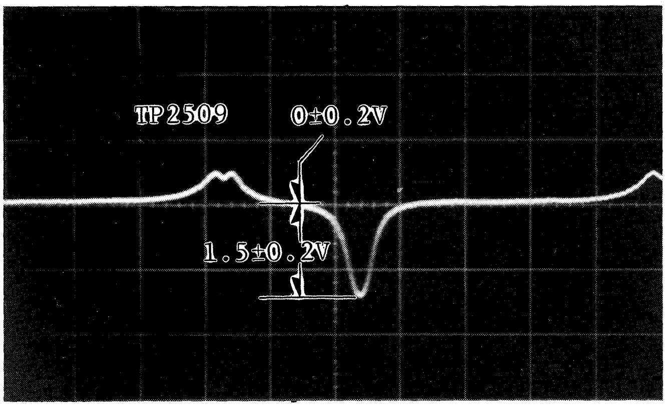


Fig. E21 (0.1V/5msec div.)

4. Make sure that the Base Line portion is 0±0.2V.
5. Set the scope in the AC mode.
6. Adjust the resistor R2766 on the Pattern Generator C.B.A. so that A is 1.5V±0.2V.

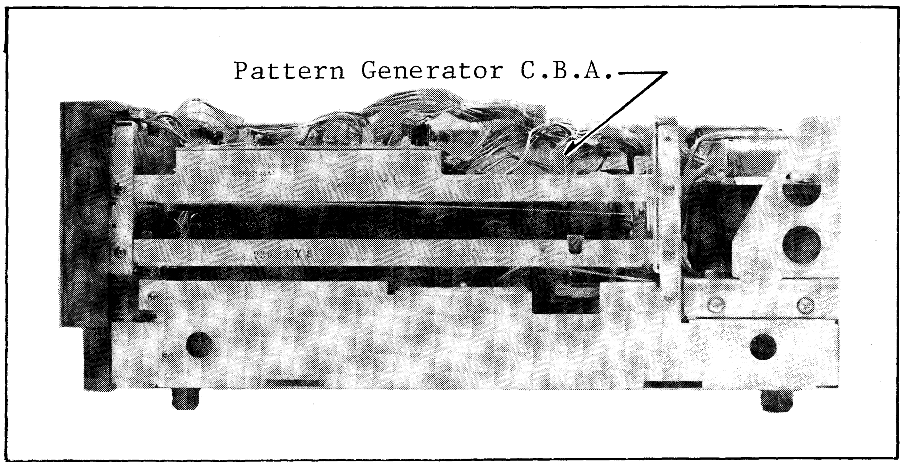

Pattern Generator C.B.A.

Fig. E22

2-9. Input Level Adjustment

Test Point: TP2901
(Envelope Amp C.B.A.)
Adjustment: R2901
(Envelope Amp C.B.A.)

1. Do not supply any video signal to the VIDEO INPUT on the front panel and disconnect the connector P2802 from Piezo Drive C.B.A.

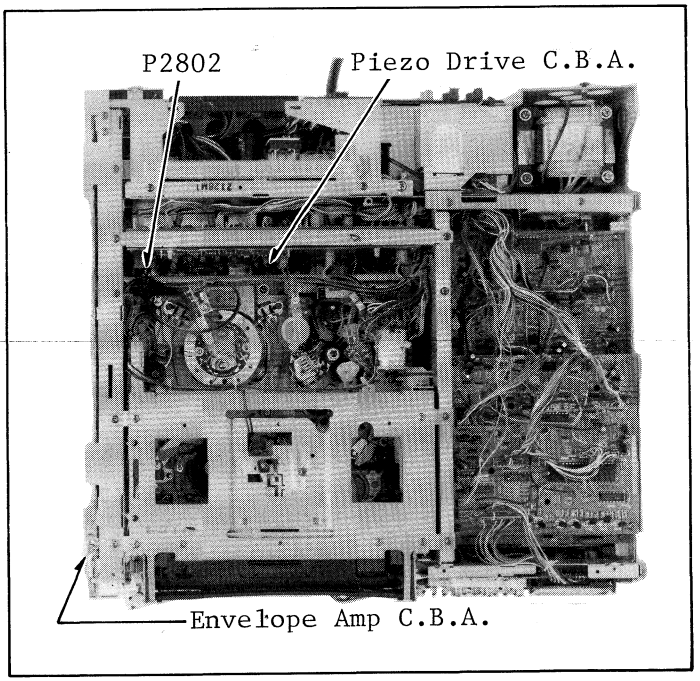


Fig. E23

2. Connect the scope to TP2901 on the Envelope Amp C.B.A.
3. Insert a cassette and set the unit in the STILL mode.
4. Adjust the resistor R2901 on the Envelope Amp C.B.A. so that the peak level of RF signal is 4.5Vp-p ∿ 5.0 Vp-p.

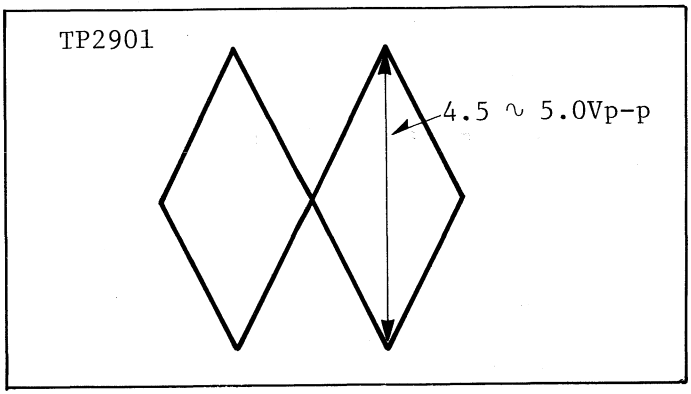


Fig. E24

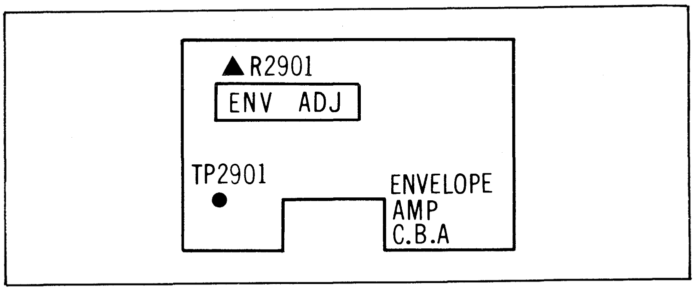


Fig. E25

2-10. ADI VR Adjustment

Test Point: TP2505
(Pattern Generator C.B.A.)
Adjustment: R2571
(Pattern Generator C.B.A.)

1. Supply an EIA pattern to the VIDEO INPUT on the front panel and make a recording for a few minutes.
2. Connect a D.V.M. to TP2505 on the Pattern Generator C.B.A.
3. Playback the just recorded portions and set the unit in the REV-x1/3 mode.
4. Adjust the resistor R2571 on the Pattern Generator C.B.A. so that the voltage is -0.3±0.1V.

2-11. SLP X Value Adjustment

Test Point: TP2505
(Pattern Generator C.B.A.)
Adjustment: R2783
(Pattern Generator C.B.A.)

1. Supply an EIA pattern to the VIDEO INPUT on the front panel and make a recording for a few minutes.
2. Connect a D.V.M. to TP2505 on the Pattern Generator C.B.A.
3. Playback the just recorded portions and set the unit in the REV-x1/3 mode.
4. Adjust the resistor R2783 on the Pattern Generator C.B.A.

3. VIDEO & COLOR SECTION

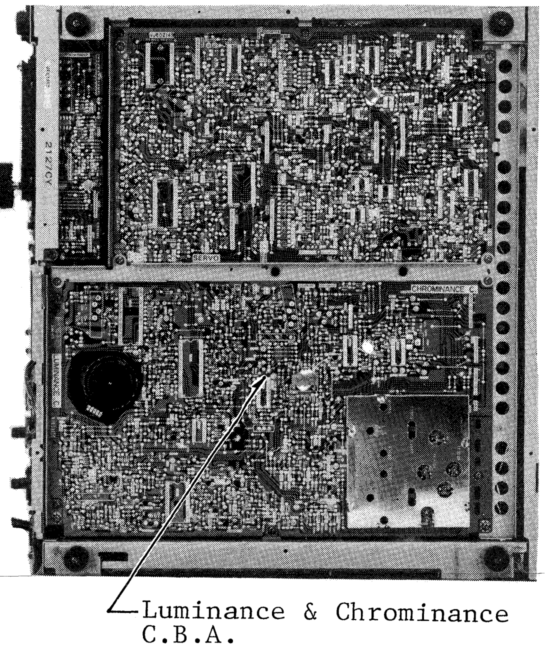

Luminance & Chrominance
C.B.A.

Fig. E26

3-1. AFC Adjustment

Test Point: TP8001 (Luminance & Chrominance C.B.A.)
Adjustment: R8032 (Luminance & Chrominance C.B.A.)

1. Do not Supply any video signal to the VIDEO INPUT on the front panel.
2. Connect the frequency counter to TP8001 on the Luminance & Chrominance C.B.A.
3. Insert a blank cassette tape and make a recording.
4. Adjust the resistor R8032 on the Luminance & Chrominance C.B.A. so that the frequency is 15.734±100Hz.
5. Supply a color bar to the VIDEO INPUT on the front panel.
6. Adjust the resistor R8032 on the Luminance & Chrominance C.B.A. so that the frequency is 15.734Hz.

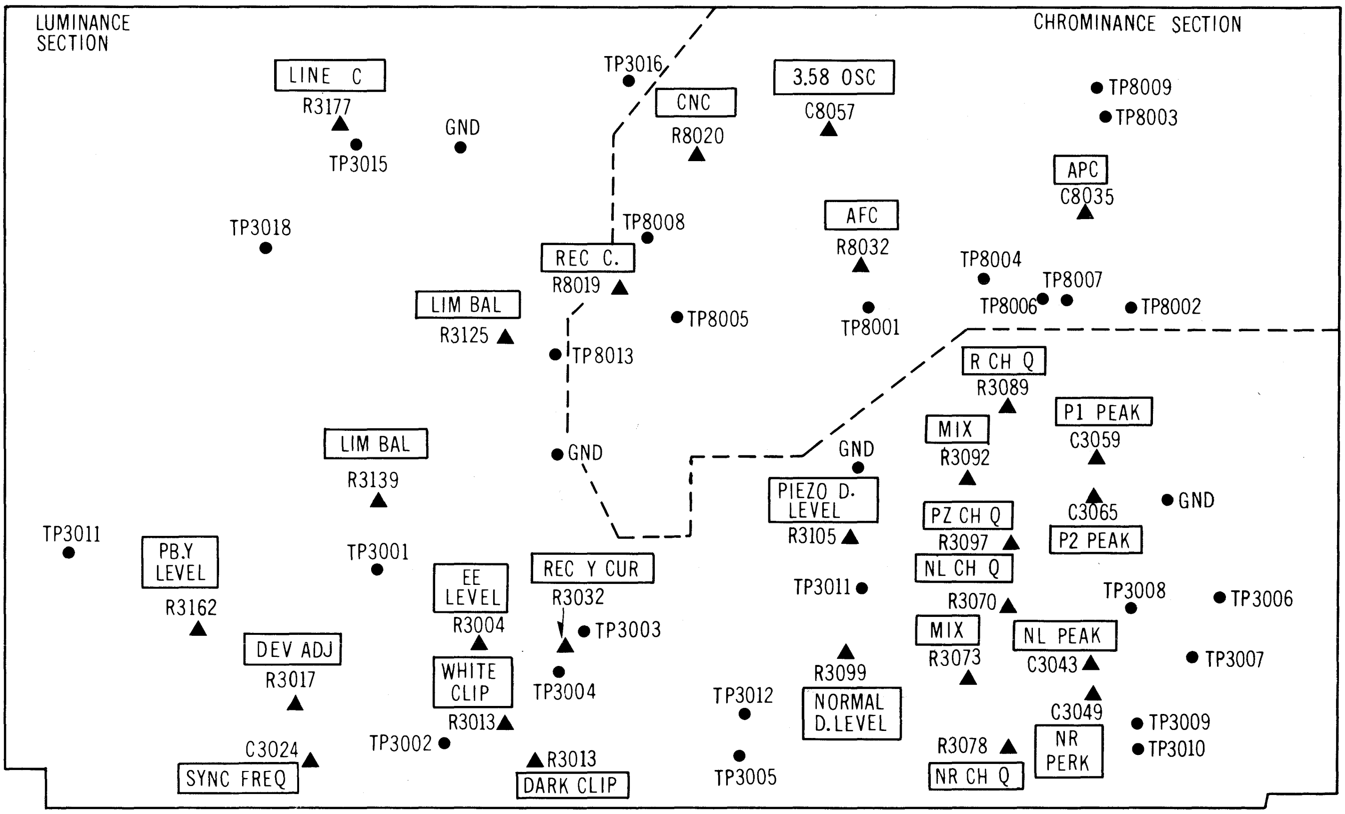

LUMINANCE SECTION
CHROMINANCE SECTION
LINE C
R3177
TP3015
GND
TP3016
CNC
R8020
3.58 OSC
C8057
TP8009
TP8003
APC
C8035
TP3018
TP8008
REC C.
R8019
AFC
R8032
TP8001
TP8004
TP8007
TP8006
TP8002
LIM BAL
R3125
TP8005
TP8013
R CH Q
R3089
P1 PEAK
C3059
MIX
R3092
LIM BAL
R3139
GND
GND
PIEZO D. LEVEL
R3105
PZ CH Q
R3097
C3065
P2 PEAK
GND
TP3011
PB.Y LEVEL
R3162
TP3001
EE LEVEL
R3004
REC Y CUR
R3032
TP3003
TP3011
NL CH Q
R3070
TP3008
TP3006
MIX
R3073
NL PEAK
C3043
TP3007
DEV ADJ
R3017
WHITE CLIP
R3013
TP3004
TP3012
R3099
NORMAL D.LEVEL
C3049
NR PERK
TP3009
TP3010
C3024
SYNC FREQ
TP3002
R3013
DARK CLIP
TP3005
R3078
NR CH Q

Fig. E27

3-2. APC Adjustment

Test Point: TP8002 (Luminance & Chrominance C.B.A.)
Adjustment: C8035 (Luminance & Chrominance C.B.A.)

1. Set the unit to STOP mode.
2. Connect a jumper between TP8006 and GND through a resistor (18kΩ). Connect a jumper between TP8007 and GND through a resistor (39kΩ).
3. Connect the frequency counter to TP8002 on the Luminance & Chrominance C.B.A.
4. Supply a color bar signal to the VIDEO INPUT on the front panel.
5. Adjust the APC (C8035) so that the frequency becomes 3.579545MHz±50Hz.

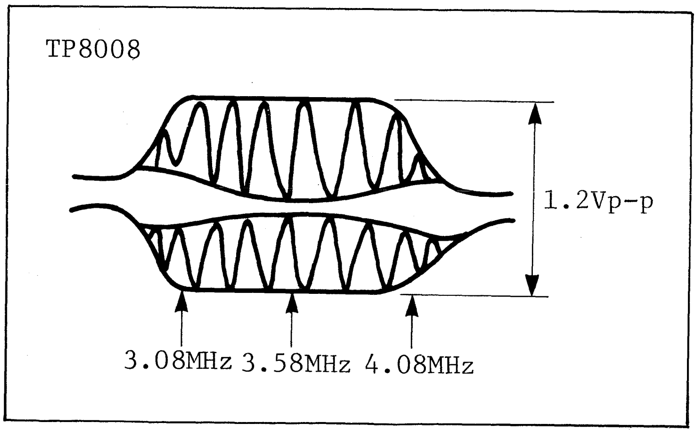
3-3. 3.58MHz Crystal Oscillator Adjustment

Test Point: TP8003 (Luminance & Chrominance C.B.A.)
Adjustment: C8057 (Luminance & Chrominance C.B.A.)

1. Set the unit in the Stop mode.
2. Connect a frequency counter to TP8003 on the Luminance & Chrominance C.B.A.
3. Adjust the capacitor C8507 on the Luminance & Chrominance C.B.A. so that the frequency is 3.579545±10Hz.

3-4. Comb Filter Adjustment

Test Point: TP8007 (Luminance & Chrominance C.B.A.)
Adjustment: R8020 (Luminance & Chrominance C.B.A.)



FFig. E28

1. Set the unit in the Stop mode.
2. Connect the sweep generator to TP8008 on the Luminance & Chrominance C.B.A. Put the marker on 3.08MHz, 3.58MHz and 4.08MHz.
   Sweep Generator Output Voltage: 200mV
3. Adjust the level of the sweep generator to 1.2Vp-p.
4. Disconnect the scope from TP8008, and reconnect it to TP8007 on the Luminance & Chrominance C.B.A.
5. Adjust the resistor R8020 on the Luminance & Chrominance C.B.A. so that the level at 3.58MHz is minimized.

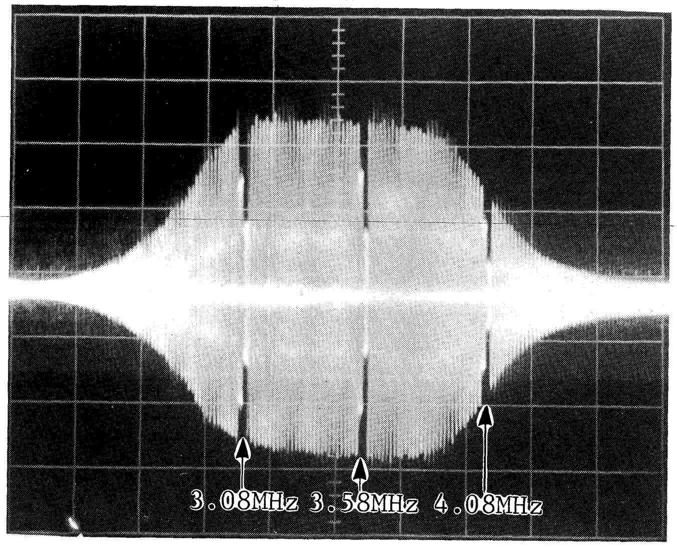


Fig. E29 (10mV/1msec div.)

3-5. Sync Tip & Deviation Adjustment

Test Point: TP3002 (Luminance & Chrominance C.B.A.)
Adjustments: C3024 (Luminance &
R3017 Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3002 on the Luminance & Chrominance C.B.A.
3. Turn the resistor R3012 fully clockwise and the resistor R3013 fully counterclockwise on the Luminance & Chrominance C.B.A.
4. Supply a 3.4MHz sinewave signal at -40dB (0.028Vp-p) to TP3003 through the 0.01µF capacitor on the Luminance & Chrominance C.B.A. Set the frequency precisely with a frequency counter.

5. Adjust the capacitor, C3024 on the Luminance & Chrominance C.B.A., so that the beat on the sync tip portion of the signal is minimized as shown in Fig. E30.

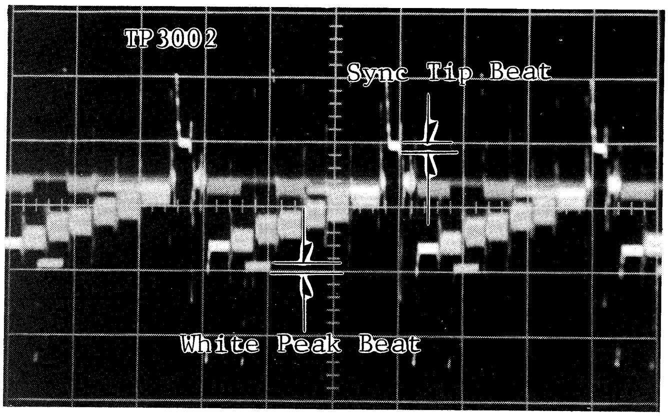


Fig. E30 (0.2V/20μsec div.)

6. Next reset the oscillator to supply a 4.4MHz sinewave signal at -40dB (0.028Vp-p) to TP3003 on the Luminance & Chrominance C.B.A. Set the frequency precisely with a frequency counter.
7. Adjust the DEVIATION resistor R3017 on the Luminance & Chrominance C.B.A., so that the beat on the white peak portion of the waveform is minimized, as shown in Fig. E30.

3-6. White and Dark Clip Adjustment

Test Point: TP3002 (Luminance &
Chrominance C.B.A.)
Adjustments: R3012 (Luminance &
R3013 Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3002 on the Luminance & Chrominance C.B.A.
3. Insert a cassette and make a recording.
4. Adjust the WHITE CLIP resistor, R3013, so that the white clip level is 70±5%.
5. Adjust the DARK CLIP resistor, R3012, so that the dark clip level is 55±5%.

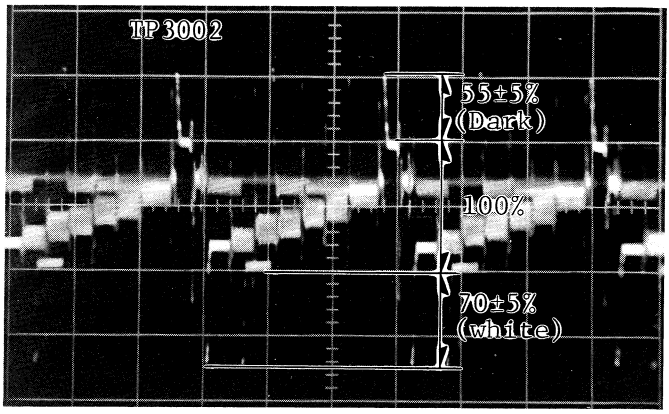


Fig. E31 (0.2V/20μsec div.)

3-7. Recording Current Adjustment

Test Points: TP3009 (Luminance &
TP3010 Chrominance C.B.A.)
Adjustments: R8019 (Luminance &
R3032 Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3009 (Hot) and TP3010 (GND), both on the Luminance & Chrominance C.B.A.
3. Insert a cassette and set the unit in the REC PLAY mode.
4. Turn the resistor R3032 fully clockwise.
5. Adjust the CHROMA CURRENT resistor, R8019 on the Luminance & Chrominance C.B.A., so that the red portion level is 40 2mVp-p.

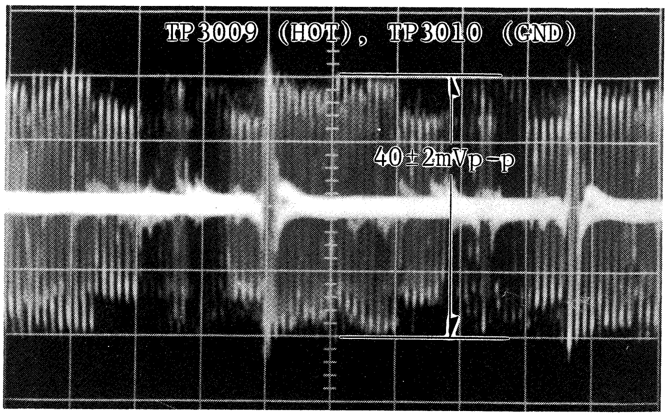


Fig. E32 (10mV/20μsec div.)

6. Adjust the Y CURRENT resistor, R3032 on the Luminance & Chrominance C.B.A. so that the level is 130±5 mVp-p.

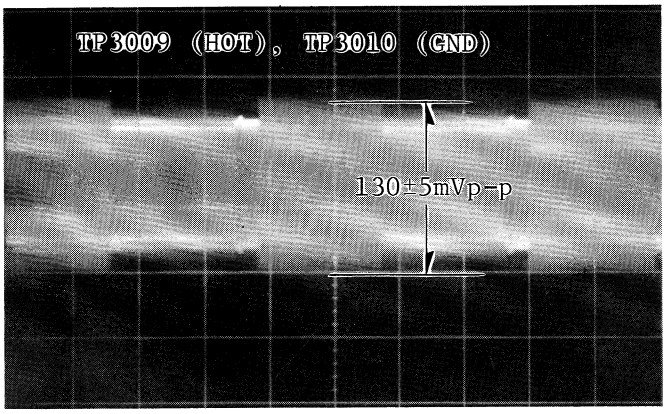


Fig. E33 (5mV/20μsec)

3-8. E-E Level Adjustment

Test Point: TP3016 (Luminance & Chrominance C.B.A.)
Adjustment: R3004 (Luminance & Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3016 on the Luminance & Chrominance C.B.A.
3. Insert a cassette and make a recording.
4. Adjust the resistor R3004 on the Luminance & Chrominance C.B.A. so that the Level is 2±0.05Vp-p.

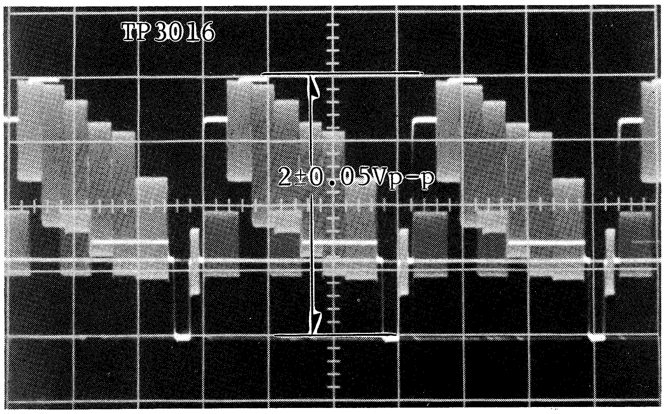


Fig. E34 (0.5V/20μsec div.)

3-9. Playback Level Adjustment

Test Point: TP3016 (Luminance & Chrominance C.B.A.)
Adjustment: R3162 (Luminance & Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3016 on the Luminance & Chrominance C.B.A.
3. Insert a cassette and make a recording.
   Playback the just-recorded portion of the tape.
4. Adjust the resistor R3162 on the Luminance & Chrominance C.B.A. so that the level is 1.9V±0.2Vp-p.

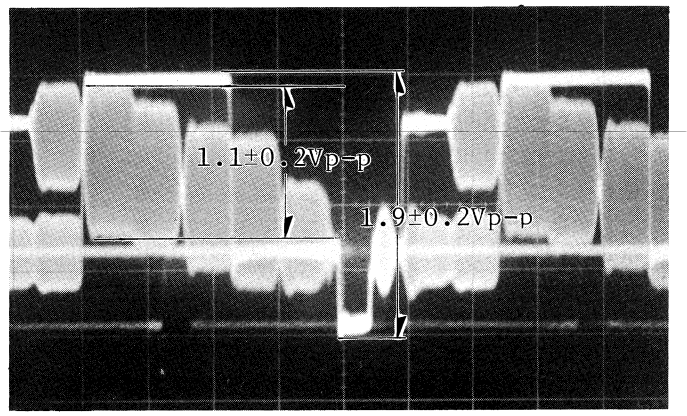


Fig. E35 (0.5V/10μsec div.)

5. Confirm that the Cyan portion level 1.1 ± 0.2Vp-p.

3-10. Head Amp Peak Frequency Adjustment

Test Point: TP3011 (Luminance & Chrominance C.B.A.)
Adjustments: C3043, C3049, C3059, C3065 (Luminance & Chrominance C.B.A.)

A: Normal mode

1. Supply a sweep generator signal to TP3005 on the Luminance & Chrominance C.B.A.
2. Set the sweep generator so the peak level is 0.4Vp-p at TP3005 and put the marker at 4.7MHz.

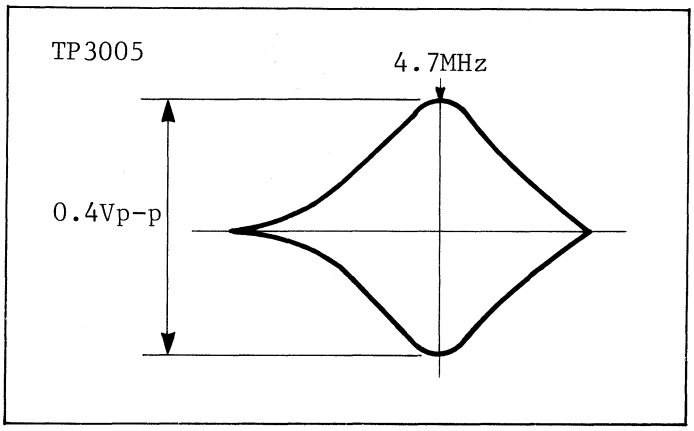


Fig. E36

3. Turn the resistor R3099 on the Luminance & Chrominance C.B.A. fully clockwise so that the envelope is maximized.
4. Connect the scope to TP3011 on the Luminance & Chrominance C.B.A.
5. Playback a bland tape which is not recorded any video signals.
6. Turn the resistor R3078 fully clockwise and R3070 fully counterclockwise.
7. Adjust the capacitor C3049 on the Luminance & Chrominance C.B.A., so that the peak portion becomes 4.7MHz± 0.1MHz
8. Turn the resistor R3078 fully counterclockwise and R3070 fully clockwise.
9. Adjust the capacitor C3043 on the Luminance & Chrominance C.B.A., so that the peak portion becomes 4.7MHz ± 0.1MHz.

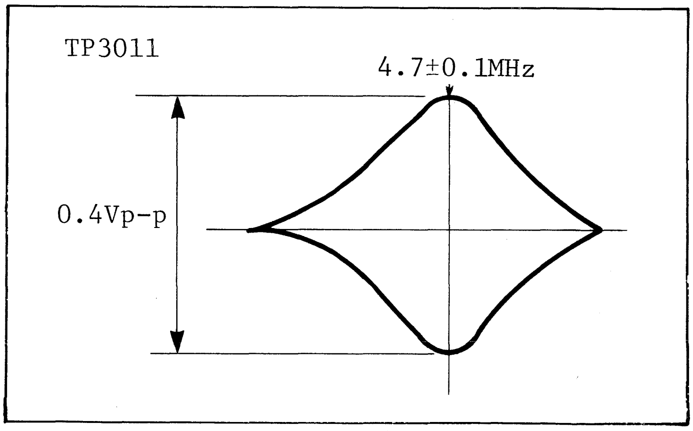


Fig. E37

B: Piezo mode

1. Connect a jumper between TP3012 and GND on the Luminance & Chrominance C.B.A.
2. Supply a sweep generator to TP3006 on the Luminance & Chrominance C.B.A.
3. Set the sweep generator so the peak level is 0.4Vp-p at TP3006, put the marker at 4.7MHz.
4. Turn the resistor R3105 on the Luminance & Chrominance C.B.A. so fully clockwise so that the "Q" period is maximized.
5. Connect the scope to TP3011 on the Luminance & Chrominance C.B.A.
6. Playback a blank tape which is not recorded any video signals and push the PAUSE/STILL button.
7. Turn the resistor R3097 fully clockwise and R3089 fully counterclockwise.
8. Adjust the capacitor C3059 on the Luminance & Chrominance C.B.A., so that the peak level is 4.7MHz±0.1MHz.
9. Turn the resistor R3097 fully clockwise and R3089 fully counterclockwise.
10. Adjust the capacitor C3065 on the Luminance & Chrominance C.B.A., so that the peak level is 4.7MHz±0.1MHz. as shown in Fig. E37.

3-11. Head Amp Frequency Characteristics Adjustment

Test Points: TP3009, TP3010, TP3011
(Luminance & Chrominance C.B.A.)
Adjustments: R3078, R3070, R3073
R3089, R3097, R3092
(Luminance & Chrominance C.B.A.)

A: Normal mode

1. Connect a jumper between TP3003 and GND on the Luminance & Chrominance C.B.A.
2. Supply a sweep generator to TP3004 on the Luminance & Chrominance C.B.A.
3. Supply a sweep generator sync signal to the LINE IN on the front panel.
Sweep Markers: 2MHz, 3.4MHz, 4.5MHz

4. Connect the scope to TP3009 (HOT) and TP3010 (GND) on the Luminance & Chrominance C.B.A.
5. Set the sweep generator so the peak level is 130mVp-p at 3.4MHz.

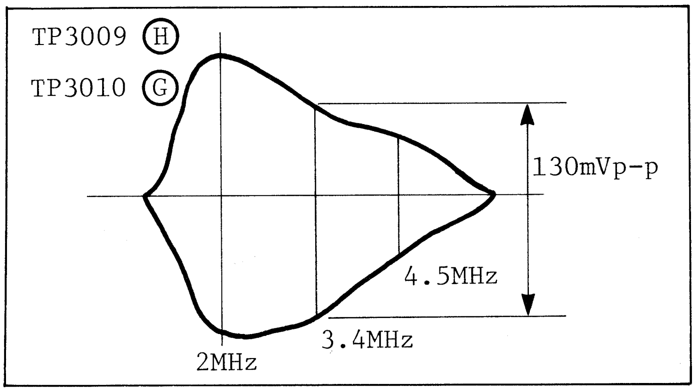

TP3009 Ⓗ
TP3010 Ⓖ
130mVp-p
4.5MHz
3.4MHz
2MHz

Fig. E38

6. Insert a cassette and make a recording.
7. Remove the probes from TP3009 and TP3010, and reconnect the scope to TP3011 on the Luminance & Chrominance C.B.A.
8. Playback the just-recorded portions of the tape.
9. Adjust resistors R3070 and R3078 on the Luminance & Chrominance C.B.A. so that the levels at 2MHz and 4.5 MHz are same.
10. Adjust the resistor R3073 on the Luminance & Chrominance C.B.A. so that the amplitude of 2MHz is same at NR and NL CH.

B: Piezo mode
1. Do not supply any video signal to the VIDEO INPUT on the front panel.

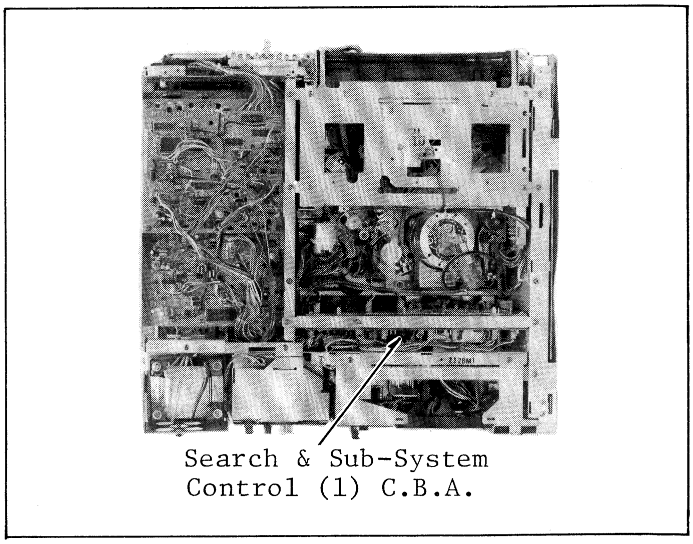

Search & Sub-System
Control (1) C.B.A.

Fig. E39

2. Connect a jumper between TP3012 and GND on the Luminance & Chrominance C.B.A.
3. Connect a jumper between TP2303 and GND on the Search & Sub-System Control (I) C.B.A.
4. Connect a jumper between TP2302 and TP2304 on the Search & Sub-System Control (I) C.B.A.
5. Playback the recorded portion that is recorded at Item(6) of normal mode head frequency charactaristics adjustment procedures.
6. Adjust resistors R2527 and R2537 on the Pattern Generator C.B.A. so that the waveform of the sweep is maximum.
7. Adjust resistors R3089 and R3097 on the Luminance & Chrominance C.B.A. so that the levels at 2MHz and 4.5 MHz are same.

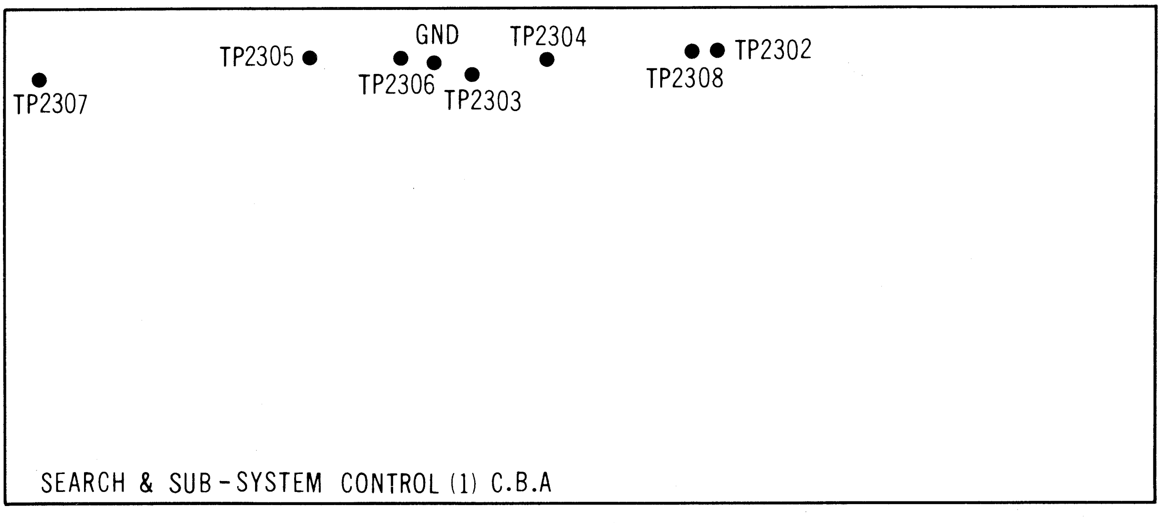

TP2307
TP2305
GND
TP2306
TP2303
TP2304
TP2302
TP2308
SEARCH & SUB-SYSTEM CONTROL (1) C.B.A

Fig. E40

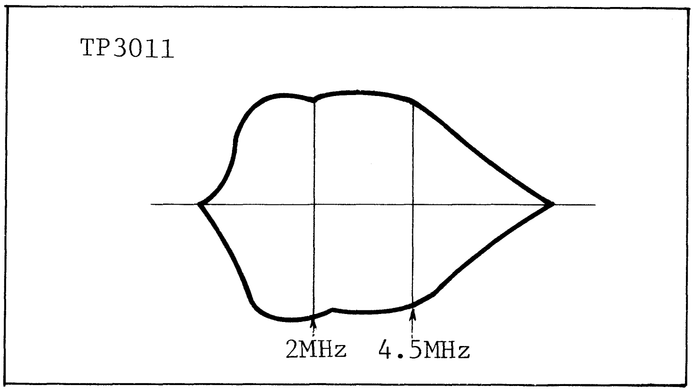


Fig. E41

8. Adjust the resistor R3092 on the Luminance & Chrominance C.B.A. so that the amplitude of 2MHz is same at NR and NL CH.

3-12. Limiter Balance Adjustment

Test Point: TP3017 (Luminance & Chrominance C.B.A.)
Adjustments: R3124 (Luminance &
R3139 Chrominance C.B.A.)

1. Place the unit in the Stop mode.
2. Connect the sweep generator to TP3005 on the Luminance & Chrominance C.B.A. and put the sweep marker 2MHz, 3.4MHz, 6MHz.
3. Connect the scope to TP3013 on the Luminance & Chrominance C.B.A.
4. Set the level of the sweep to 1Vp-p at TP3012.
5. Reconnect the scope to TP3017 on the Luminance & Chrominance C.B.A.
6. Adjust the resistor R3125 on the Luminance & Chrominance C.B.A. so that the level of A portion (3.4MHz is same in both channels.

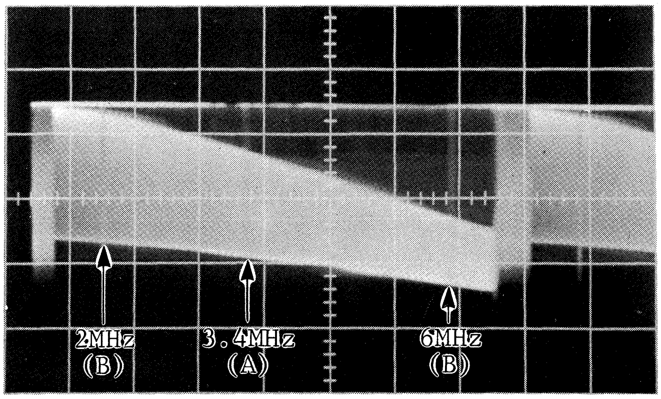


Fig. E42 (50mV/2msec div.)

7. Adjust the resistor R3139 on the Luminance & Chrominance C.B.A. so that the level of B portions (2MHz, 6MHz) is same in both channels.

3-13. Drop Out Compensator Input Level Adjustment

Test Point: TP3013 (Luminance & Chrominance C.B.A.)
Adjustments: R3099 (Luminance &
R3105 Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3013 on the Luminance & Chrominance C.B.A.
3. Insert a cassette and make a recording. Playback the just-recorded portions of the tape.
4. Adjust the resistor R3099 on the Luminance & Chrominance C.B.A. so that the level is 1.1±0.1Vp-p.

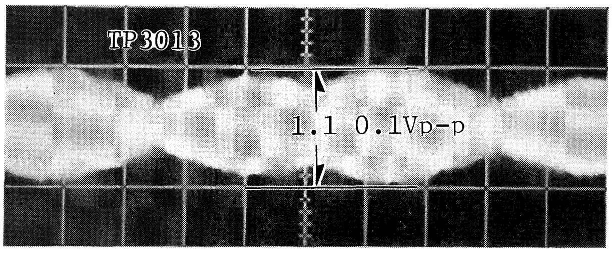


Fig. E43 (0.5V/10msec div.)

5. Place the unit in the PAUSE/STILL mode.
6. Adjust the resistor R3105 on the Luminance & Chrominance C.B.A. so that the level is 1.1±0.1Vp-p.

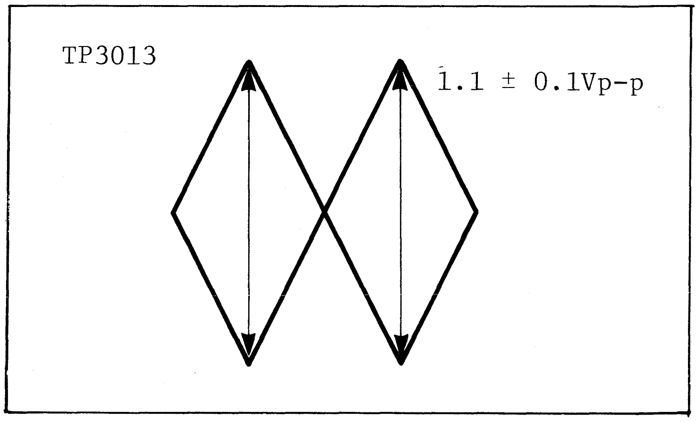


Fig. E44

3-14. Line Relation Level Adjustment

Test Point: TP3015 (Luminance & Chrominance C.B.A.)
Adjustment: R3177 (Luminance & Chrominance C.B.A.)

1. Supply a color bar signal to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3015 on the Luminance & Chrominance C.B.A.
3. Place the unit in the REC.PLAY mode.
4. Adjust the resistor R3177 on the Luminance & Chrominance C.B.A. so that the level of V-SYNC waveform becomes minimum.

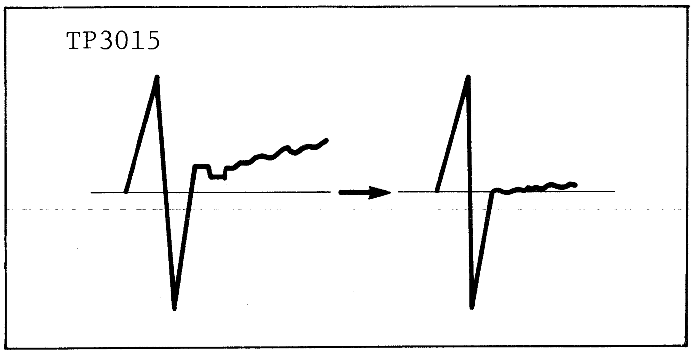


Fig. E45

3-15. Artificial V SYNC Adjustment

Test Point: TP3016 (Luminance & Chrominance C.B.A.)
Adjustment: R3521 (Audio & V-Dancing Comp. (I) C.B.A.)

1. Supply an EIA pattern to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3016 on the Luminance & Chrominance C.B.A.
3. Place the unit in the CUE/REV mode.
4. Adjust the resistor R3521 on the Audio & V-Dancing Comp. (I) C.B.A. so that the "T" period is 500μsec.

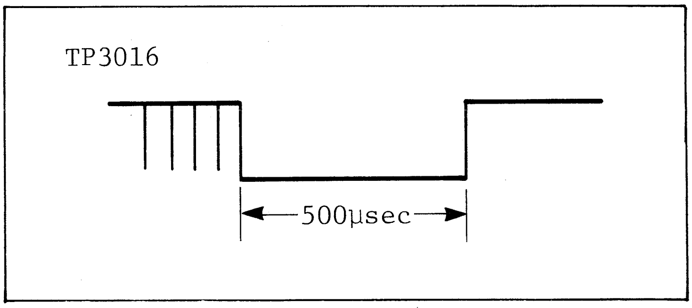


Fig. E46

3-16. Vertical Dancing Adjustment

Test Point: Monitor TV
Adjustments: R3511 (Audio & V-Dancing Comp (I) C.B.A.)
R3707, R3711, R3717, R3721 (V-Dancing (II) C.B.A.)

1. Supply an EIA pattern to the VIDEO INPUT on the front panel.
2. Connect the VIDEO INPUT of Monitor TV from the VIDEO OUTPUT on the rear panel.
3. Insert a cassette and make a recording.
4. Playback the just-recorded of the tape.
5. Adjust resistors R3511 on the Audio & V-Dancing Comp. (I) C.B.A. and R3707, R3711, R3717, R3721 on the V-Dancing(II) C.B.A. so that the Vircical Dancing on the TV monitor becomes minimum. Adjustments point is shown in Fig. E47.

MODE	ADJUSTMENT
REV x 1/10	R3511
CUE x 1/2	R3707, R3711
REV x 1/3	R3717, R3721

Fig. E47

3-17. Gain Adjustment

Test Point: TP3501 (Audio & V-Dancing Comp. (I) C.B.A.)
Adjustments: R2534 (Pattern Generator
R2535 C.B.A.)

1. Supply an EIA pattern to the VIDEO INPUT on the front panel.
2. Connect the scope to TP3501 on the Audio & V-Dancing Comp. (I) C.B.A.
3. Connect the triggering INPUT level of the scope to TP2507 on the Pattern Generator C.B.A.
4. Insert a cassette (SP) and play back the just-recorded portion of the tape.
5. Adjust the resistor R2534 on the Audio & V-Dancing Comp. (I) C.B.A. so that the center portion of the envelope in the first field becomes minimum.

6. Adjust the resistor R2535 on the Pattern Generator C.B.A. so that the center portion of the envelope in the second field becomes minimum.

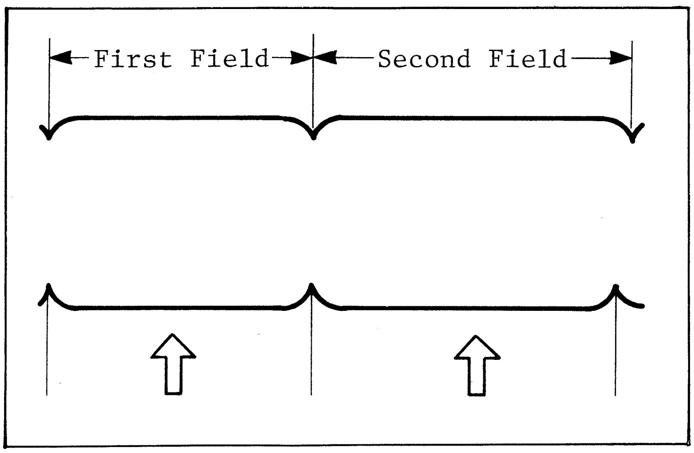

First Field
Second Field

Fig. E48

4. AUDIO SECTION

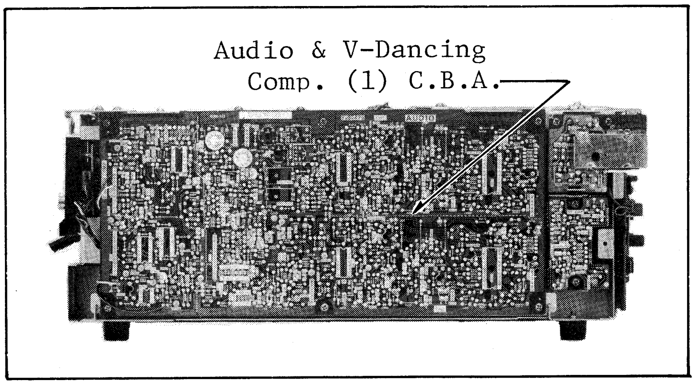

Audio & V-Dancing Comp. (1) C.B.A.

Fig. E49

4-1. Audio Playback Gain Adjustment

Test Points: TP4008 (Audio & V-Dancing
TP4009 Comp. (I) C.B.A.)
Adjustments: R4064 (Audio & V-Dancing
R4136 Comp. (I) C.B.A.)

1. Insert the alignment tape (VFM8080H2) and play back the multiburst portion.
2. Connect the scope CH1 to TP4008 and CH2 to TP4009 on the Audio & V-Dancing Comp. (I) C.B.A.
3. Adjust the resistor R4064 on the Audio & V-Dancing Comp. (I) C.B.A. so that the audio level (CH1) is 315±10mVp-p.
4. Adjust the resistor R4136 on the Audio & V-Dancing Comp. (I) C.B.A. so that the audio level (CH2) is 330±10mVp-p.

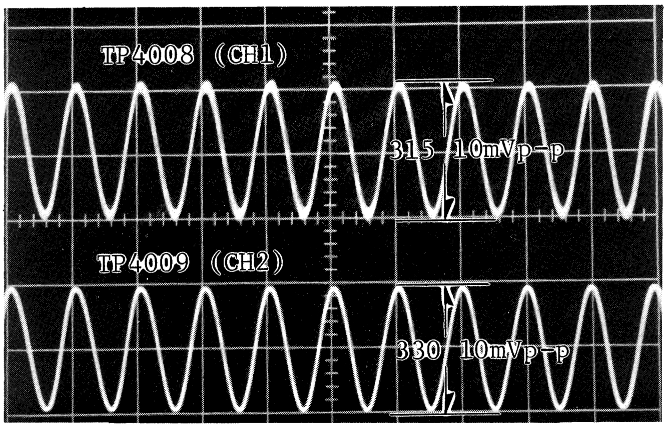


Fig. E51 (0.2V/20μsec div.)

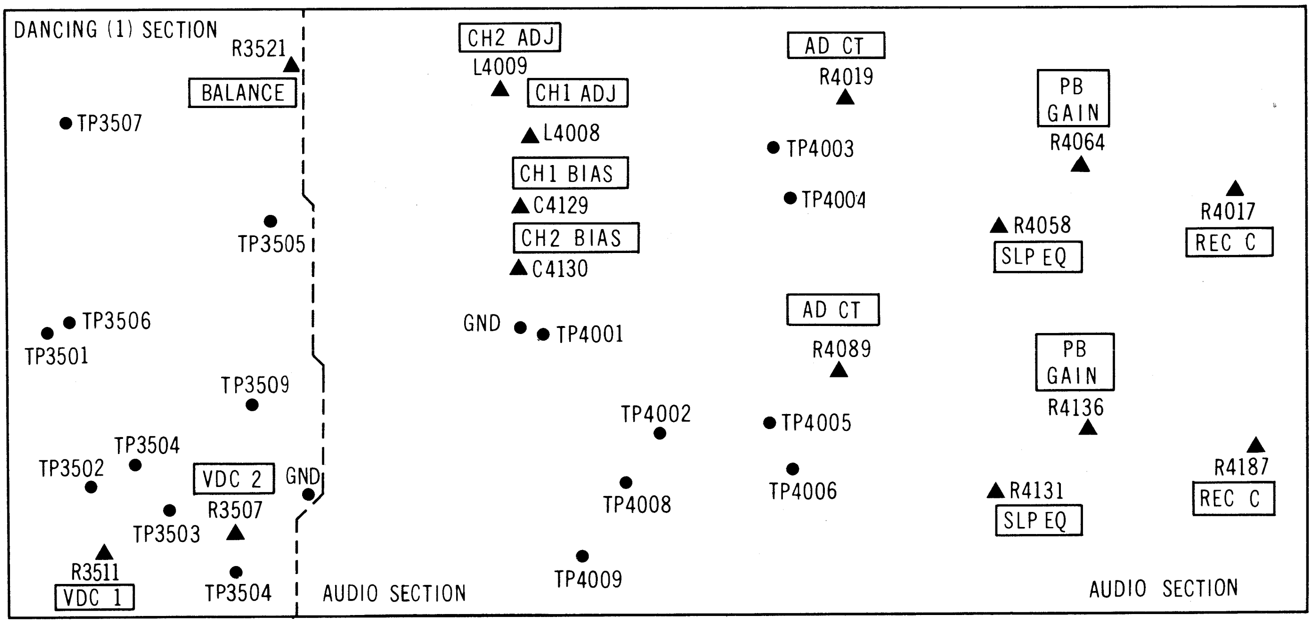

DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
CH2 ADJ
L4009
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
GND
TP4001
TP4002
TP4008
TP4009
AUDIO SECTION
AD CT
R4019
TP4003
TP4004
AD CT
R4089
TP4005
TP4006
PB GAIN
R4064
R4058
SLP EQ
PB GAIN
R4136
R4131
SLP EQ
R4017
REC C
R4187
REC C
AUDIO SECTION

Fig. E50

4-2. Audio Bias Current Adjustment

Test Point: P4002-(1)(3)
P4004-(1)(3)
P4008-(2)(3)(4)(5)
Adjustments: C4129, C4130, L4008, L4009
(Audio & V-Dancing
Comp. (I) C.B.A.)

A. REC.PLAY mode
1. Do not supply any video signal to the VIDEO INPUT on the front panel. Insert a cassette and make a recording.
2. Connect a D.V.M. to P4002-pin 1 (CH1) and P4002-3 (Ground).
3. Adjust the capacitor C4129 on the Audio P.C. Board so that the voltage is 1.3mVrms±0.05mVrms.
4. Connect a D.V.M. to P4004-pin 1 (CH2) and P4004-pin 3 (Ground).
5. Adjust the capacitor C4130 on the Audio & V-Dancing Comp. (I) C.B.A. so that the voltage is 1.3mVrms±0.05 mVrms.

B. DUB mode
1. Do not supply any video signal to the VIDEO INPUT on the front panel. Insert a cassette set the DUB mode.
2. Connect a D.V.M. to P4008-pin 2 (CH1) and P4008-pin 3 (Ground).
3. Adjust L4009 on the Audio & V-Dancing Comp. (I) C.B.A. so that the voltage is 1.3±0.1mVrms.
4. Connect a D.V.M. to P4008-pin 4 (CH2) and P4008-pin 5 (Ground).
5. Adjust L4008 on the Audio & V-Dancing Comp. (I) C.B.A. so that the voltage is 1.3±0.1mVrms.

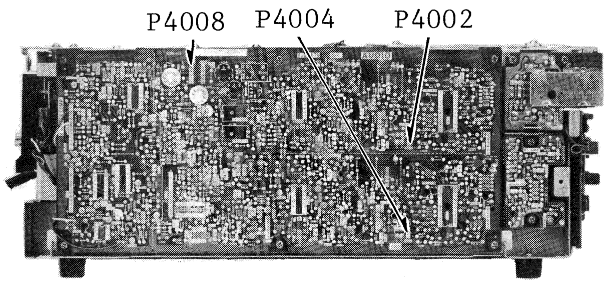


Fig. E52

4-3. Audio REC Level Adjustment

Test Points: TP4008 (Audio & V-Dancing
TP4009 Comp. (I) C.B.A.)
Adjustments: R4017 (Audio & V-Dancing
R4087 Comp. (I) C.B.A.)

1. Supply a sinewave (1kHz, -10dB, 0.2V) to the AUDIO INPUT on the front panel.
2. Connect a D.V.M. to TP4008 (CH1) on the Audio & V-Dancing Comp. (I) C.B.A.
3. Insert a cassette and make a recording.
   Play back the just-recorded portion of the tape.
4. Adjust the resistor R4017 on the Audio & V-Dancing Comp. (I) C.B.A. so that the level is same as the recording level.
5. Disconnect a D.V.M. from TP4008 (CH1) and reconnect it to TP4009 (CH2) on the Audio & V-Dancing Comp. (I) C.B.A.
6. Adjust the resistor R4087 on the Audio & V-Dancing Comp. (I) C.B.A. so that the level is more 0.5dB than the recording level.

4-4. Audio Crosstalk Cancellation Adjustment

Test Points: TP4009 (Audio & V-Dancing
TP4008 Comp. (I) C.B.A.)
Adjustments: R4019 (Audio & V-Dancing
R4089 Comp. (I) C.B.A.)

1. Supply a sinewave (1kHz, -10dB, 0.2V) to the AUDIO INPUT on the front panel.
2. Connect the scope CH1 to TP4009 and CH2 to TP4008, both on the Audio & V-Dancing Comp. (I) C.B.A.
3. Place the unit in the DUB mode.
4. Adjust the resistor R4019 on the Audio & V-Dancing Comp. (I) C.B.A. so that the influence to CH2 from CH1 becomes minimum(Fig. E53).
5. Confirm that the output level of TP4009 (CH2) to TP4008 (CH1) is less than -25dB.
6. Adjust the resistor R4089 on the Audio & V-Dancing Comp. (I) C.B.A. so that the influence to CH1 from CH2 becomes minimum(Fig. E54).
7. Confirm that the output level of TP4008 (CH1) to TP4009 (CH2) is less than -25dB.

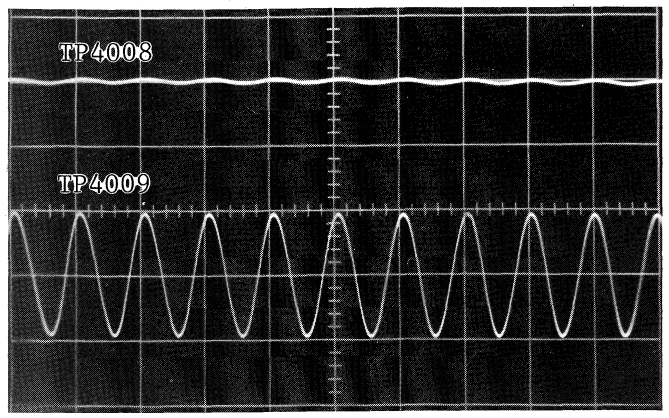


Fig. E53 (0.5V/5msec div.)

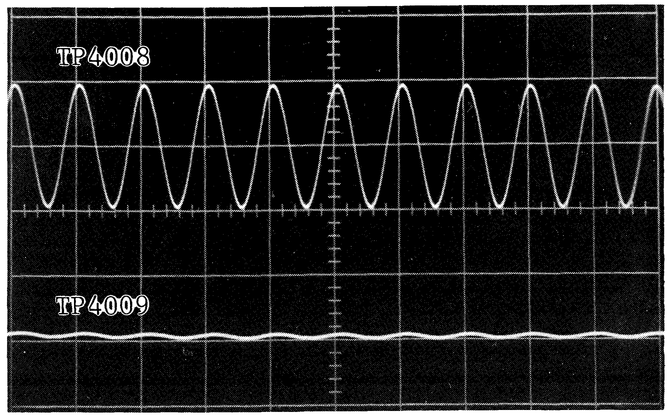


Fig. E54 (0.5V/5msec div.)

5. SYSTEM CONTROL SECTION

5-1. Reel Motor Current Adjustment

Test Point: TP6001 (System Control & Index (I) C.B.A.)

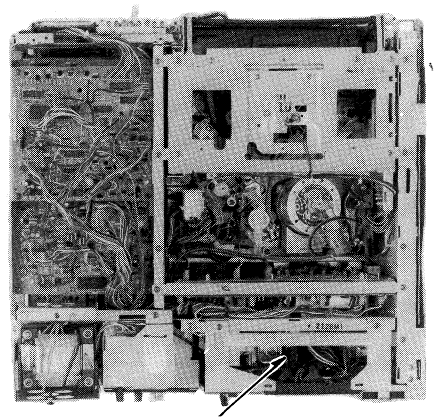
Adjustment: R6221 (System Control & Index (I) C.B.A.)

1. Do not supply any video signal.
2. Check the AC INPUT voltage. It should be the rated voltage value.
3. Set the TIME SELECT SWITCH to SLP.
4. Connect a D.V.M. to TP6001 on the System Control & Index(I) C.B.A.
5. Insert a cassette and make a recording.
6. Adjust the Resistor R6221 on the System Control & Index(I) C.B.A., the voltage is A or B or C ± 2.0mV.

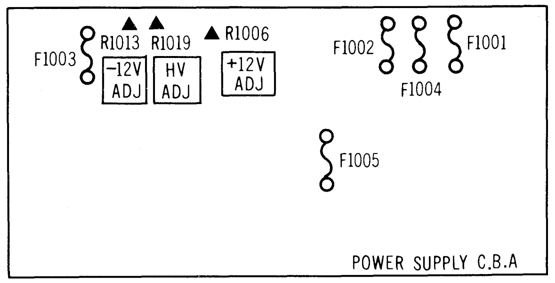
	VOLTAGE	MARKER
A	195mV	BLACK
B	185mV	ORANGE
C	175mV	RED

Fig. E55

Power Supply C.B.A

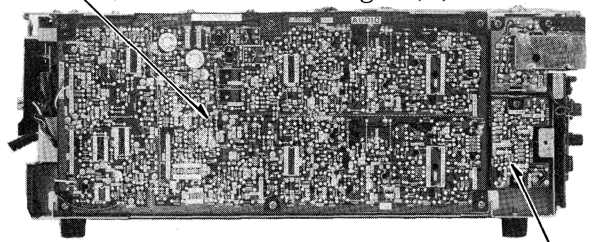


Power Supply C.B.A.

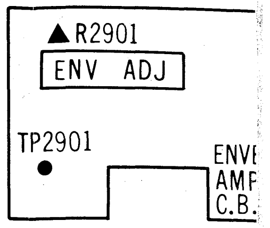

R1013
R1019
R1006
F1003
-12V ADJ
HV ADJ
+12V ADJ
F1002
F1001
F1004
F1005
POWER SUPPLY C.B.A

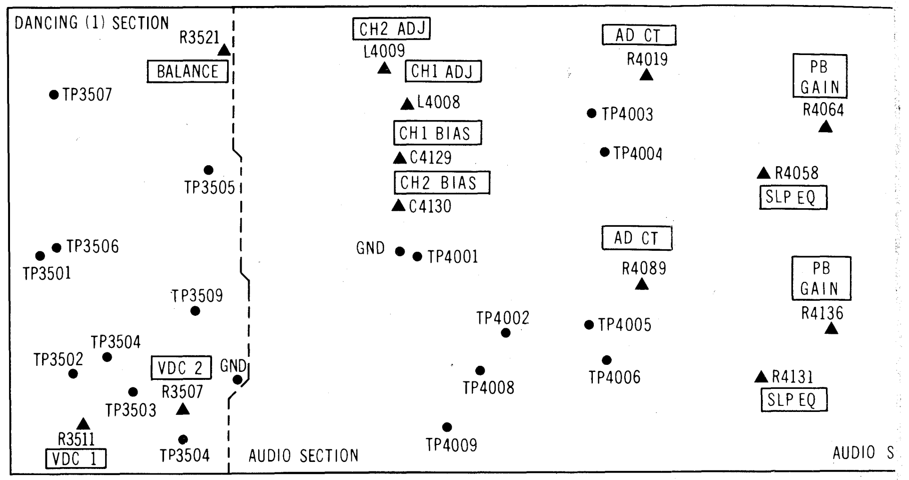
Audio & V-Dancing Comp (1) C.B.A / Envelope Amp C.

Audio & Dancing. (1) C.B.A.

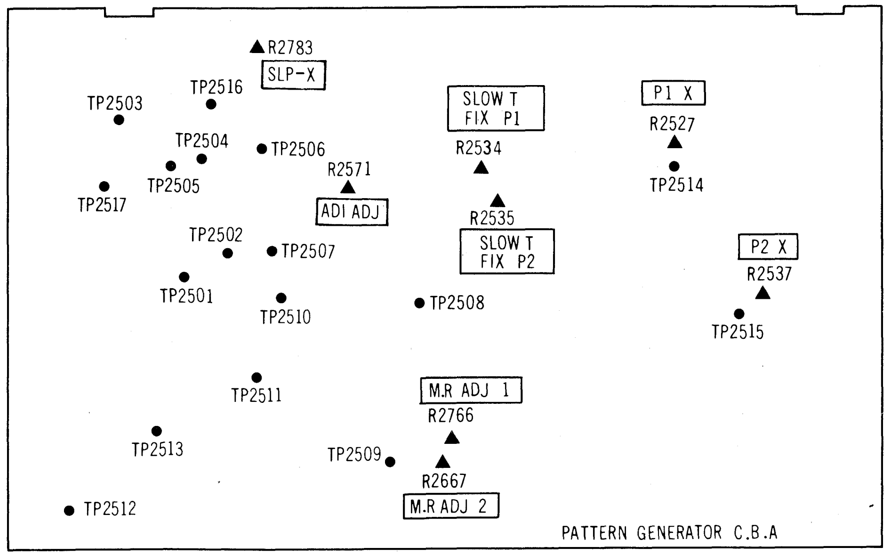


Envelope Amp C.B.A.


R2901
ENV ADJ
TP2901
ENV
AMP
C.B.

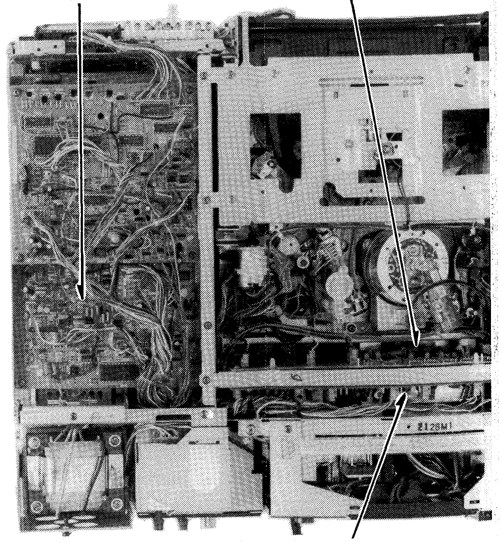

DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
AUDIO SECTION
CH2 ADJ
L4009
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
GND
TP4001
TP4002
TP4008
TP4009
AD CT
R4019
TP4003
TP4004
AD CT
R4089
TP4005
TP4006
PB GAIN
R4064
R4058
SLP EQ
PB GAIN
R4136
R4131
SLP EQ
AUDIO S

Pattern Generator C.B.A / Piezo Head Drive C.B.A / Search


R2783
SLP-X
TP2503
TP2516
TP2504
TP2506
TP2505
TP2517
R2571
ADI ADJ
TP2502
TP2507
TP2501
TP2510
TP2511
TP2513
TP2509
TP2512
SLOW T FIX P1
R2534
R2535
SLOW T FIX P2
TP2508
M.R ADJ 1
R2766
R2667
M.R ADJ 2
P1 X
R2527
TP2514
P2 X
R2537
TP2515
PATTERN GENERATOR C.B.A

Pattern Generator C.B.A.

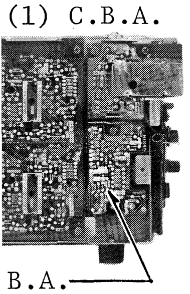
Piezo Head Drive C.

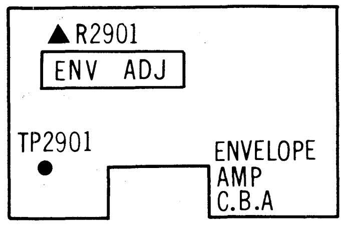


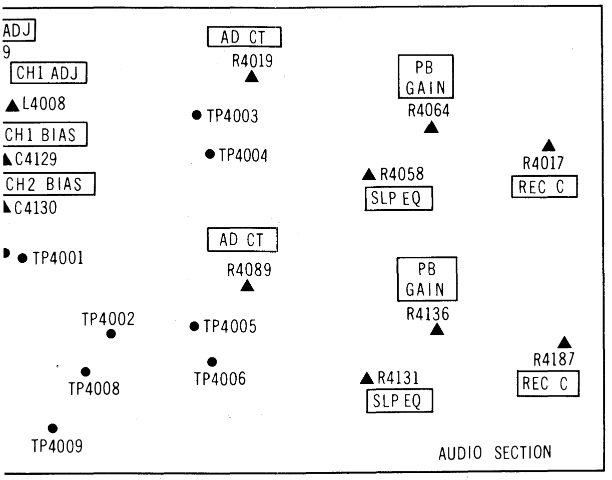
Search & Sub-System Control (1) C.B.A.

Location of TPs & Controls

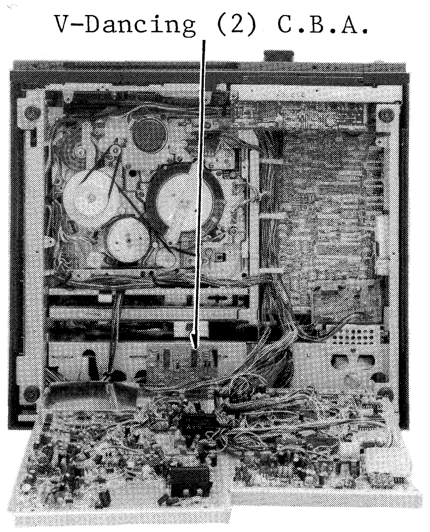
mp (1) C.B.A / Envelope Amp C.B.A

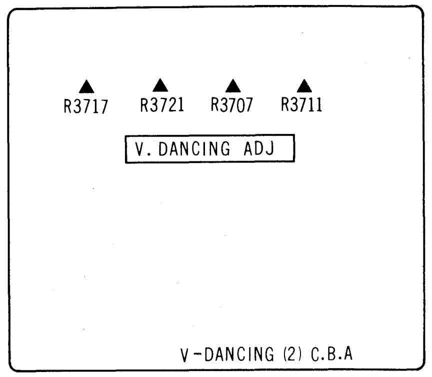



R2901
ENV ADJ
TP2901
ENVELOPE
AMP
C.B.A

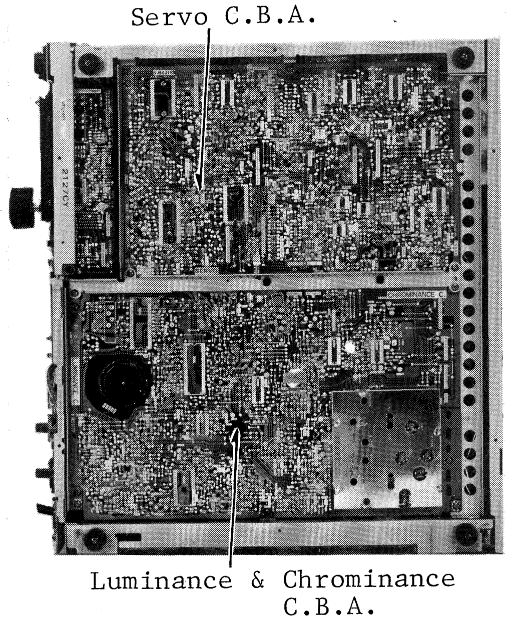

ADJ
9
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
TP4001
TP4002
TP4008
TP4009
AD CT
R4019
TP4003
TP4004
AD CT
R4089
TP4005
TP4006
PB GAIN
R4064
R4058
SLP EQ
PB GAIN
R4136
R4131
SLP EQ
R4017
REC C
R4187
REC C
AUDIO SECTION

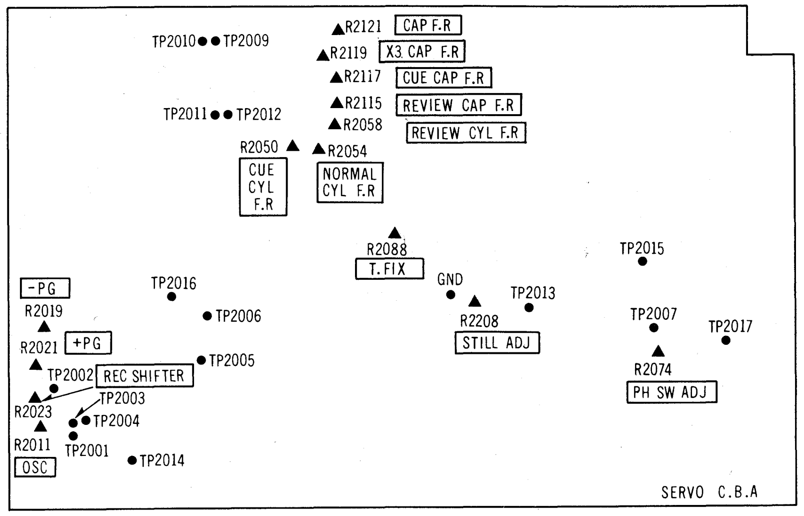
V-Dancing (2) C.B.A

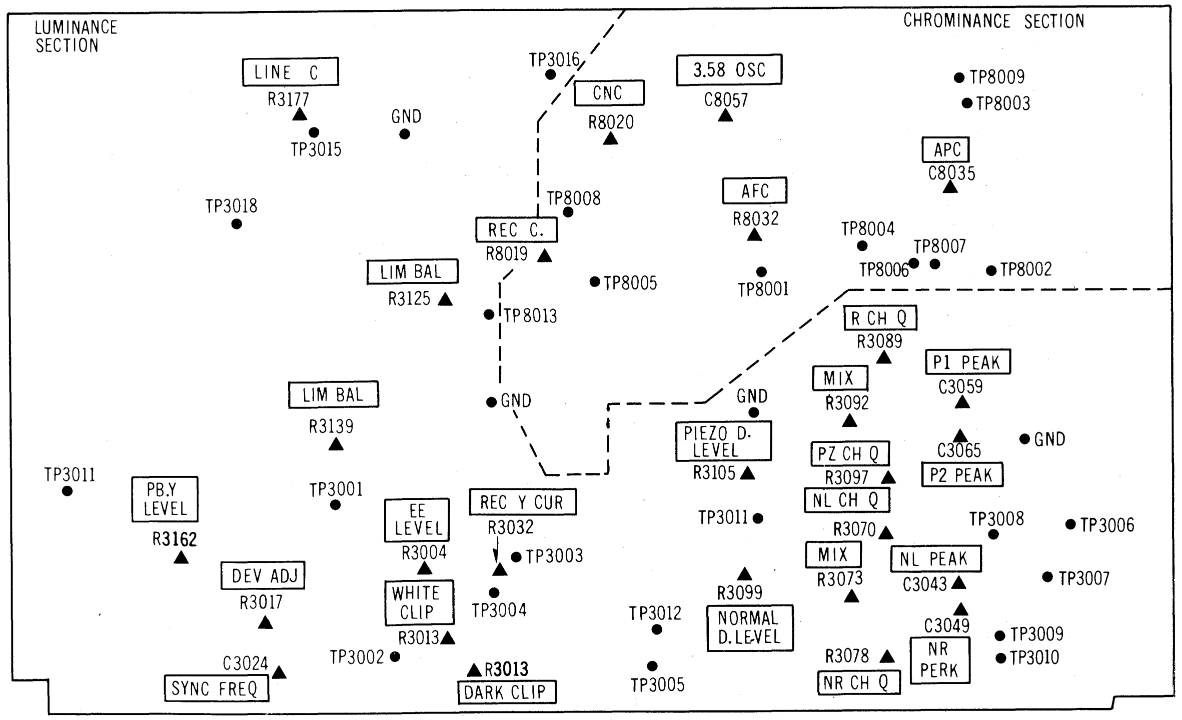

V-Dancing (2) C.B.A.


R3717
R3721
R3707
R3711
V. DANCING ADJ
V-DANCING (2) C.B.A

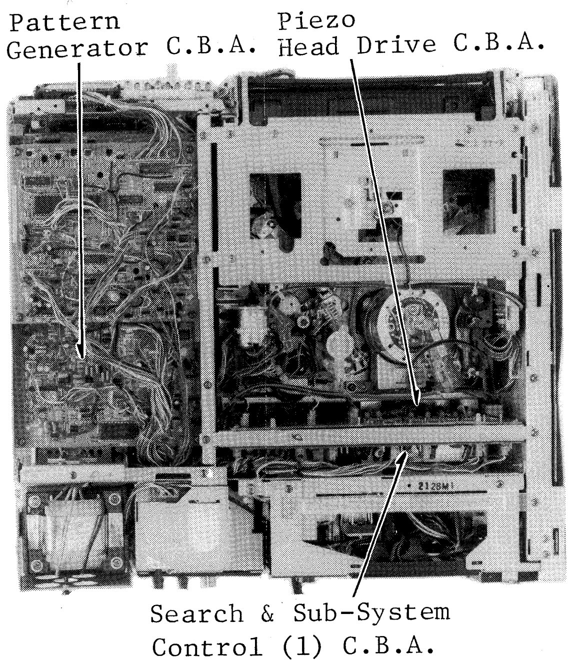
Servo C.B.A / Luminance & Chrominance C.B.A

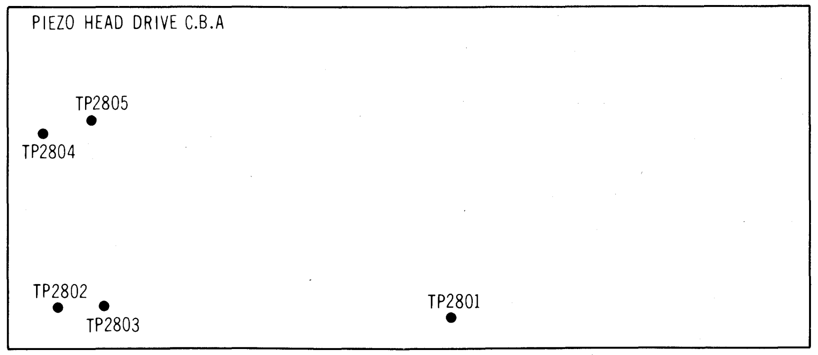

Servo C.B.A.
Luminance & Chrominance C.B.A.

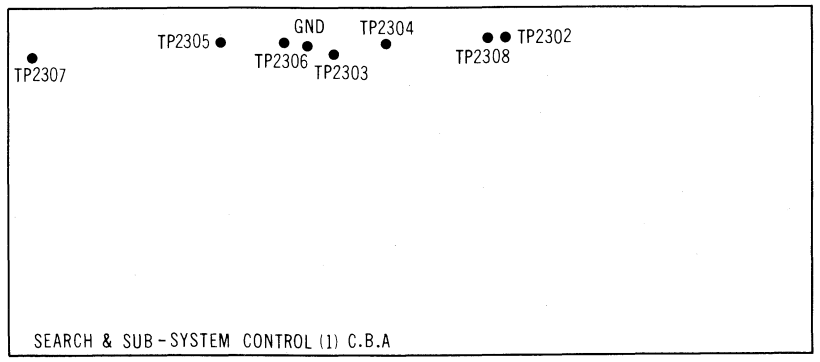

TP2010
TP2009
TP2011
TP2012
R2121
CAP F.R
R2119
X3 CAP F.R
R2117
CUE CAP F.R
R2115
REVIEW CAP F.R
R2058
REVIEW CYL F.R
R2050
CUE CYL F.R
R2054
NORMAL CYL F.R
R2088
T. FIX
GND
R2208
STILL ADJ
TP2013
TP2015
TP2007
TP2017
R2074
PH SW ADJ
-PG
R2019
R2021
+PG
TP2002
REC SHIFTER
R2023
TP2003
TP2004
R2011
OSC
TP2001
TP2016
TP2006
TP2005
TP2014
SERVO C.B.A


LUMINANCE SECTION
CHROMINANCE SECTION
LINE C
R3177
TP3015
GND
TP3018
TP3016
CNC
R8020
3.58 OSC
C8057
TP8009
TP8003
APC
C8035
TP8008
REC C.
R8019
AFC
R8032
TP8004
TP8007
TP8006
TP8002
LIM BAL
R3125
TP8005
TP8001
TP8013
R CH Q
R3089
LIM BAL
R3139
GND
GND
MIX
R3092
P1 PEAK
C3059
PIEZO D. LEVEL
R3105
PZ CH Q
R3097
C3065
P2 PEAK
GND
TP3011
PB.Y LEVEL
R3162
TP3001
EE LEVEL
R3004
REC Y CUR
R3032
TP3003
TP3011
NL CH Q
R3070
TP3008
TP3006
DEV ADJ
R3017
WHITE CLIP
R3013
TP3004
MIX
R3073
NL PEAK
C3043
TP3007
R3099
NORMAL D.LEVEL
TP3012
C3049
TP3009
TP3010
C3024
SYNC FREQ
TP3002
R3013
DARK CLIP
TP3005
R3078
NR CH Q
NR PERK

iezo Head Drive C.B.A / Search & Sub-System Control (1) C.B.A


Pattern Generator C.B.A.
Piezo Head Drive C.B.A.
Search & Sub-System Control (1) C.B.A.


PIEZO HEAD DRIVE C.B.A
TP2805
TP2804
TP2802
TP2803
TP2801


TP2307
TP2305
GND
TP2306
TP2303
TP2304
TP2302
TP2308
SEARCH & SUB-SYSTEM CONTROL (1) C.B.A

ORDER NO. VRD-8203-059

Service Manual

Video Cassette Recorder

Vol. 3

Panasonic
Omnivision II VHS

NV-8950

Block Diagrams

SPECIFICATIONS

Power Source: 120V AC, 60Hz
Power Consumption: Approx. 77 watts
Television System: EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Color signal: converted subcarrier phase shift recording
Audio Track: 2 tracks
Tape Format: Tape width 1/2 inch (12.7mm), high density tape
Tape Speed: SP/1-5/16 i.p.s. (33.35mm/s), SLP/7/16 i.p.s. (11.12mm/s)
Record/Playback Time: 360 min. with NV-T120 used in SLP mode
FF/REW Time: Less than 6 min. with NV-T120
Heads: Video: 4 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
2 audio track erase for audio dubbing
Input Level: Video: Tuner Connector
1.0Vp-p, 75Ω unbalanced
Camera Input Terminal
1.0Vp-p, 75Ω unbalanced
VIDEO IN connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: Tuner Connector
−16dB, 5kΩ unbalanced
Camera Input Terminal
−20dB, 50kΩ unbalanced
MIC IN jack × 2
−70dB, 47kΩ unbalanced
LINE IN jack (RCA) × 2
−20dB, 50kΩ unbalanced

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: LINE OUT jack (RCA) × 2
−9dB, 1kΩ less unbalanced
AUDIO MONITOR OUT jack (RCA) −9dB, 1kΩ less unbalanced
RF Modulated: Channel 3 or 4
67dBμ (open voltage),
75Ω unbalanced
Video Horizontal Resolution (on monoscope test pattern): Color/Monochrome: more than 240 lines
Audio Frequency Response: 50Hz ~ 10kHz in SP mode
Signal-to-Noise Ratio: Video: better than 45dB
(Rohde & Schwarz noise meter)
Audio: better than 48dB (Dolby NR-IN)
Operating Temperature: 41°F ~ 104°F (5°C ~ 40°C)
Operating Humidity: 35% ~ 80%
Weight: 36.3 lbs. (16.5kg)
Dimensions: 17-3/4″(W) × 6-5/8″(H) × 16-13/16″(D)
450(W) × 168(H) × 426(D)mm

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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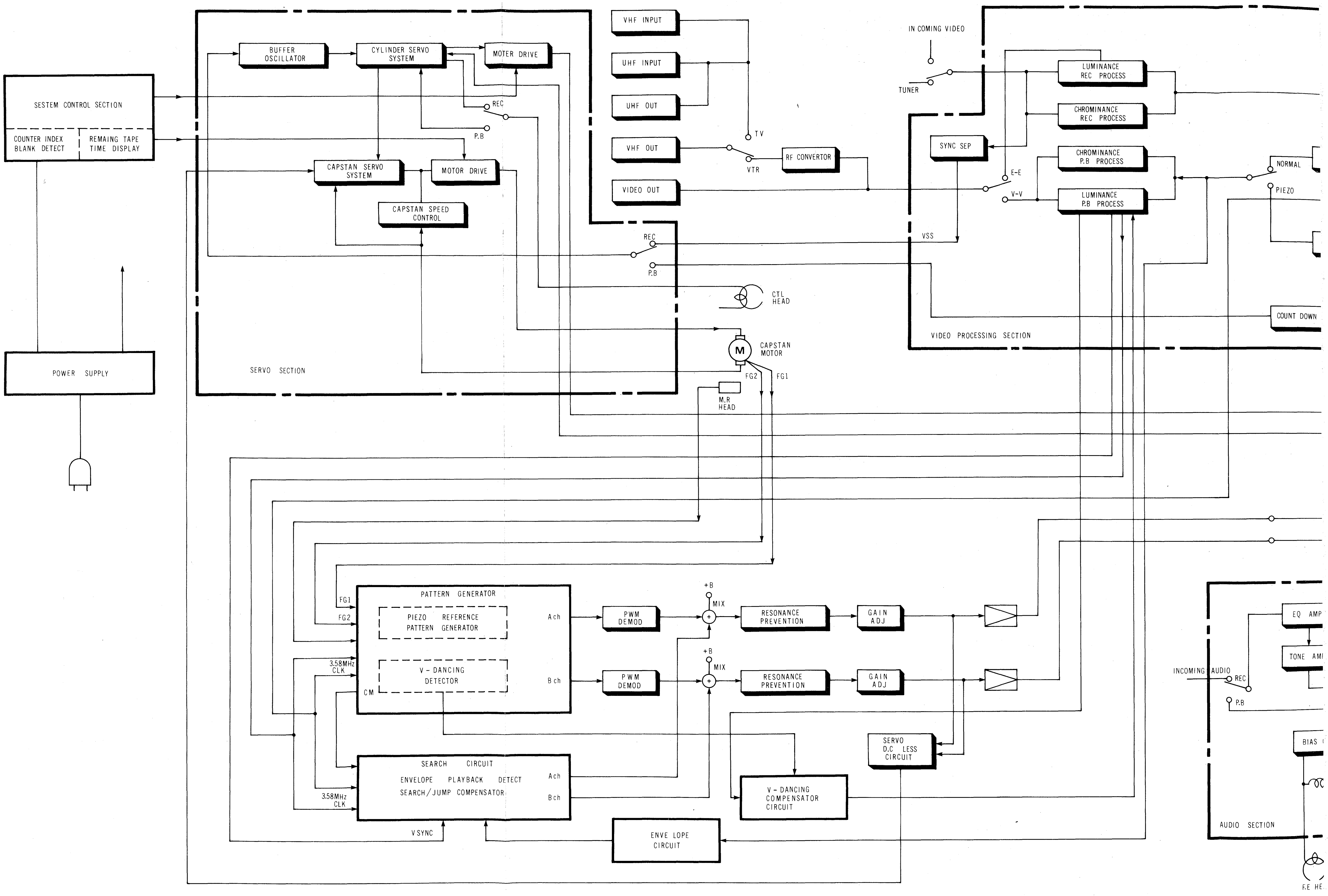
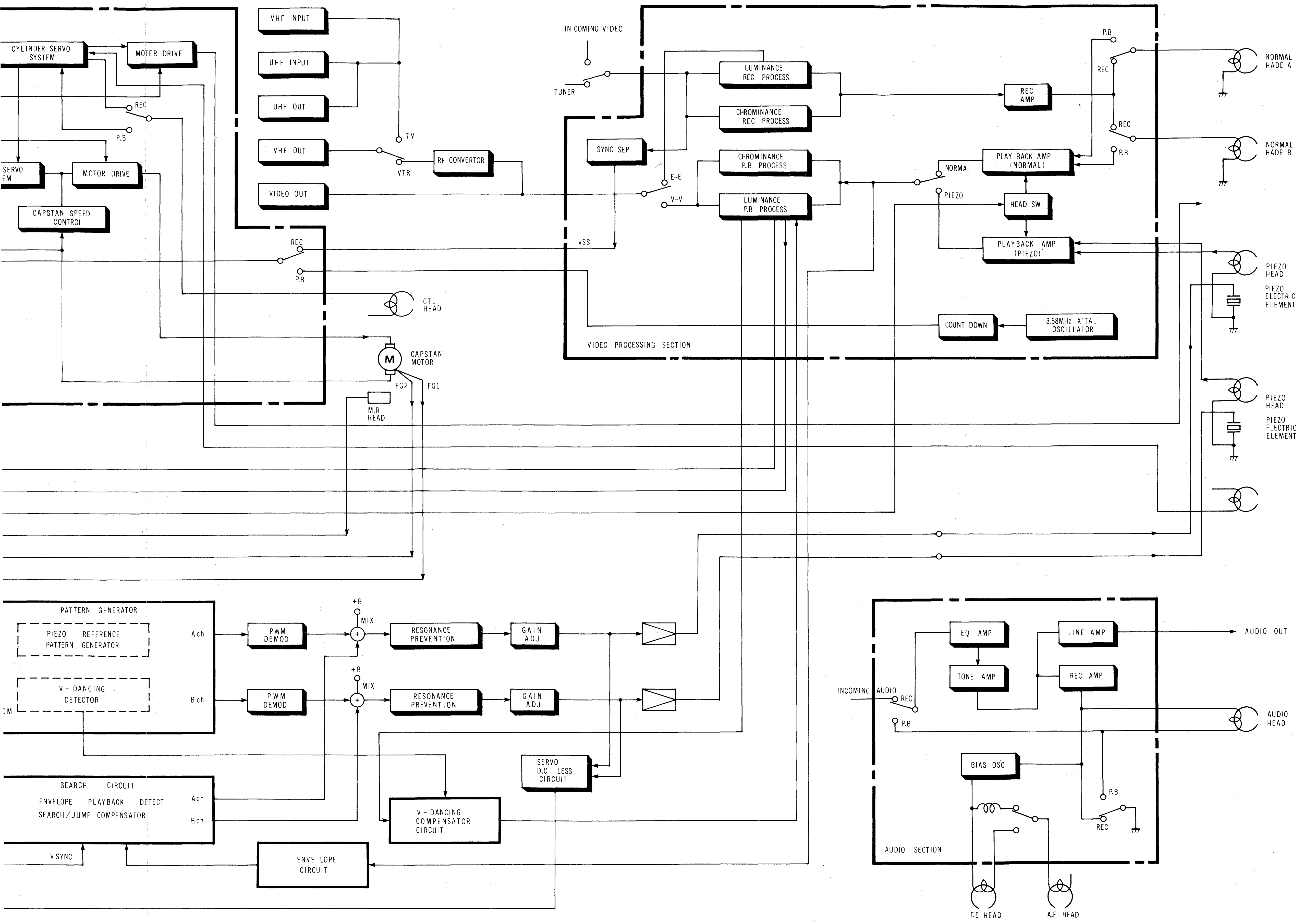
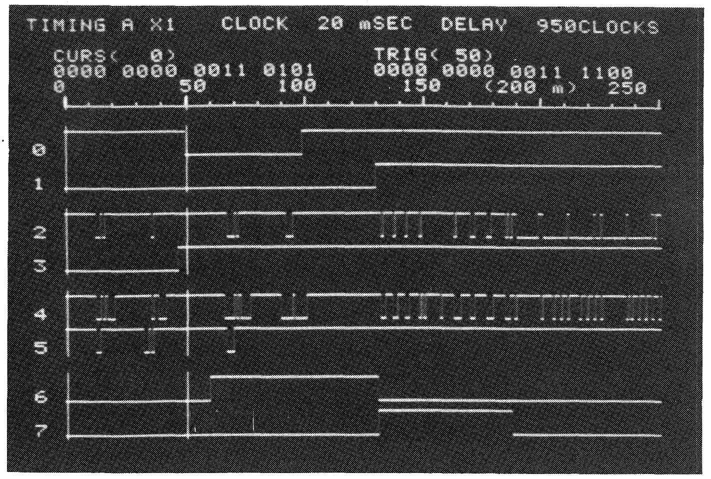
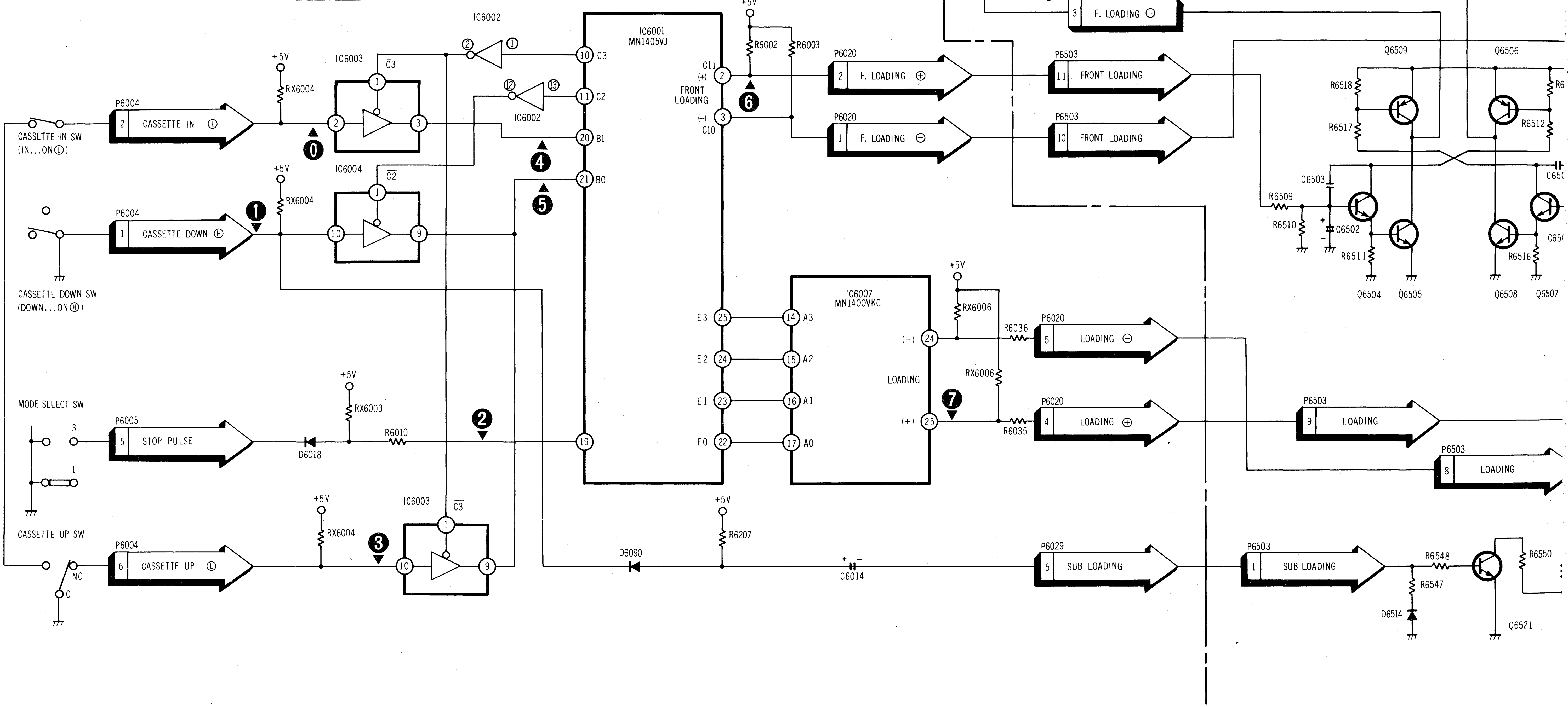
OVERALL BLOCK DIAGRAM


SESTEM CONTROL SECTION
COUNTER INDEX BLANK DETECT
REMAING TAPE TIME DISPLAY
POWER SUPPLY
BUFFER OSCILLATOR
CYLINDER SERVO SYSTEM
MOTER DRIVE
REC
P.B
CAPSTAN SERVO SYSTEM
MOTOR DRIVE
CAPSTAN SPEED CONTROL
SERVO SECTION
VHF INPUT
UHF INPUT
UHF OUT
VHF OUT
VIDEO OUT
TV
VTR
RF CONVERTOR
REC
P.B
CTL HEAD
CAPSTAN MOTOR
M
FG2
FG1
M.R HEAD
IN COMING VIDEO
TUNER
LUMINANCE REC PROCESS
CHROMINANCE REC PROCESS
SYNC SEP
CHROMINANCE P.B PROCESS
LUMINANCE P.B PROCESS
E-E
V-V
VSS
NORMAL
PIEZO
COUNT DOWN
VIDEO PROCESSING SECTION
PATTERN GENERATOR
FG1
FG2
PIEZO REFERENCE PATTERN GENERATOR
3.58MHz CLK
V - DANCING DETECTOR
CM
Ach
Bch
PWM DEMOD
PWM DEMOD
+B
MIX
+B
MIX
RESONANCE PREVENTION
RESONANCE PREVENTION
GAIN ADJ
GAIN ADJ
SERVO D.C LESS CIRCUIT
SEARCH CIRCUIT
ENVELOPE PLAYBACK DETECT
SEARCH/JUMP COMPENSATOR
3.58MHz CLK
Ach
Bch
V-DANCING COMPENSATOR CIRCUIT
V SYNC
ENVE LOPE CIRCUIT
INCOMING AUDIO
REC
P.B
EQ AMP
TONE AMI
BIAS
AUDIO SECTION
F.E HE

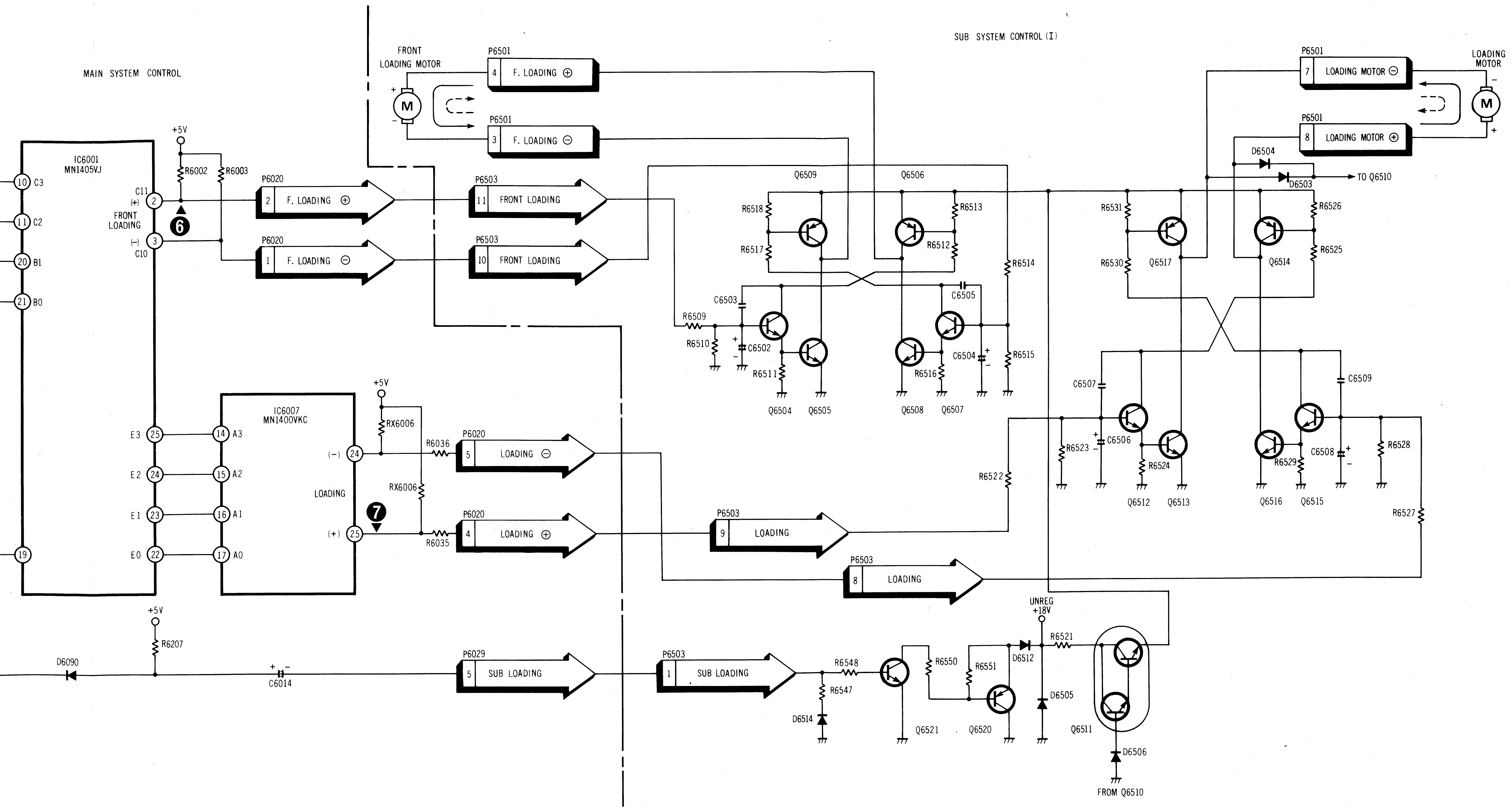

CYLINDER SERVO SYSTEM
MOTER DRIVE
REC
P.B
SERVO
EM
MOTOR DRIVE
CAPSTAN SPEED CONTROL
REC
P.B
CTL HEAD
CAPSTAN MOTOR
M
FG2
FG1
M.R HEAD
VHF INPUT
UHF INPUT
UHF OUT
VHF OUT
VIDEO OUT
TV
VTR
RF CONVERTOR
IN COMING VIDEO
TUNER
LUMINANCE REC PROCESS
CHROMINANCE REC PROCESS
SYNC SEP
E-E
V-V
CHROMINANCE P.B PROCESS
LUMINANCE P.B PROCESS
VSS
REC AMP
P.B
REC
REC
P.B
PLAY BACK AMP (NORMAL)
NORMAL
PIEZO
HEAD SW
PLAYBACK AMP (PIEZO)
COUNT DOWN
3.58MHz X'TAL OSCILLATOR
VIDEO PROCESSING SECTION
NORMAL HADE A
NORMAL HADE B
PIEZO HEAD
PIEZO ELECTRIC ELEMENT
PIEZO HEAD
PIEZO ELECTRIC ELEMENT
PATTERN GENERATOR
PIEZO REFERENCE PATTERN GENERATOR
V - DANCING DETECTOR
A ch
B ch
CM
PWM DEMOD
PWM DEMOD
+B
MIX
+B
MIX
RESONANCE PREVENTION
RESONANCE PREVENTION
GAIN ADJ
GAIN ADJ
SERVO D.C LESS CIRCUIT
SEARCH CIRCUIT
ENVELOPE PLAYBACK DETECT
SEARCH/JUMP COMPENSATOR
A ch
B ch
V SYNC
V - DANCING COMPENSATOR CIRCUIT
ENVE LOPE CIRCUIT
EQ AMP
TONE AMP
LINE AMP
REC AMP
AUDIO OUT
INCOMING AUDIO
REC
P.B
AUDIO HEAD
BIAS OSC
P.B
REC
AUDIO SECTION
F.E HEAD
A.E HEAD


TIMING A X1 CLOCK 20 mSEC DELAY 950CLOCKS
CURS(0)
0000 0000 0011 0101
TRIG(50)
0000 0000 0011 1100
0
50
100
150
(200 m)
250
0
1
2
3
4
5
6
7

FRONT LOADING MODE (SYSTEM CONTROL) BLOCK DIAGRAM

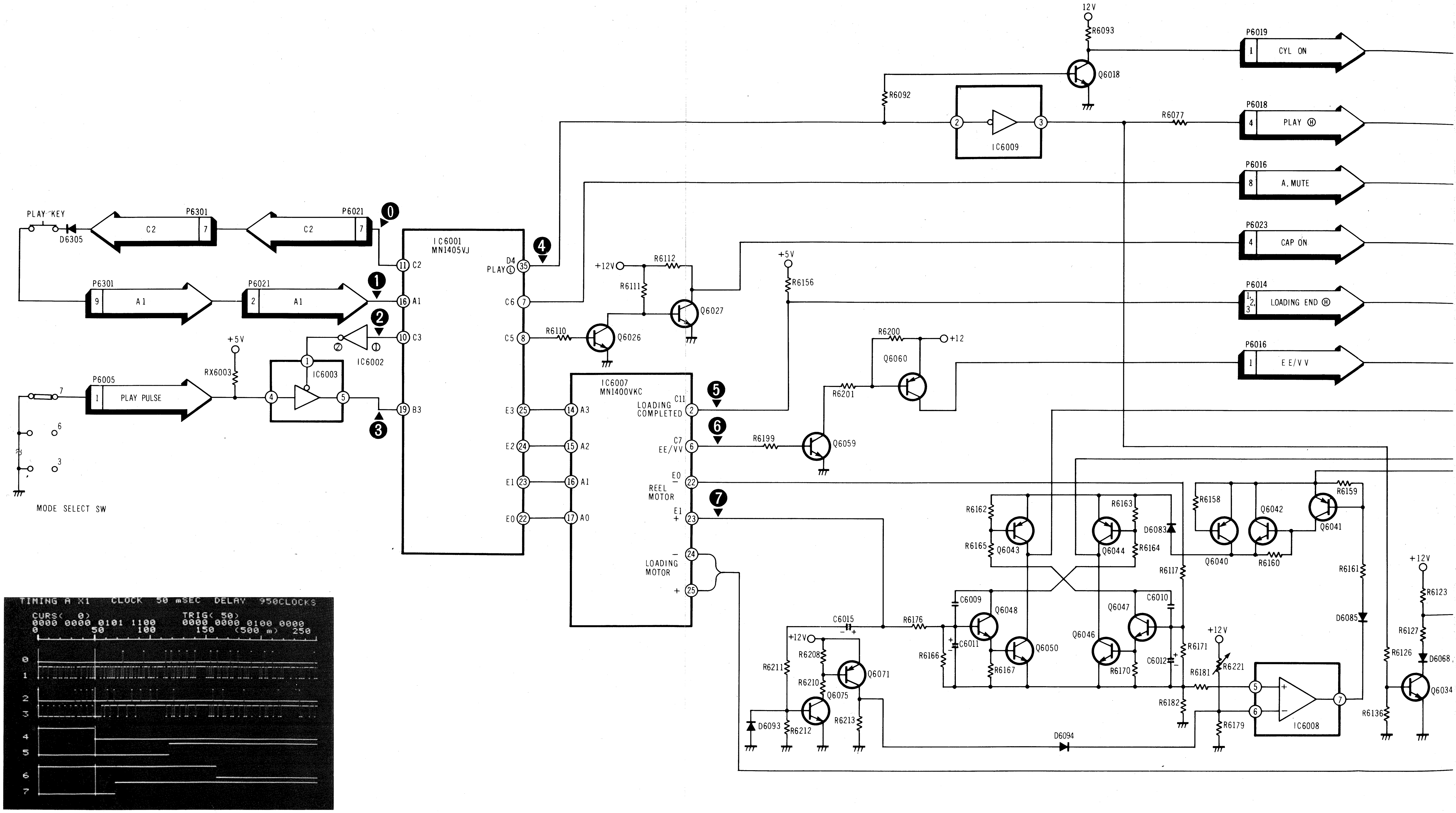

MAIN SYSTEM CONTROL
IC6001
MN1405VJ
C3
C2
B1
B0
C11
(+)
FRONT
LOADING
(−)
C10
E3
E2
E1
E0
IC6002
IC6003
IC6004
C3
C2
+5V
RX6004
RX6003
R6010
D6018
D6090
R6207
C6014
R6002
R6003
P6004
2 CASSETTE IN Ⓛ
1 CASSETTE DOWN Ⓗ
6 CASSETTE UP Ⓛ
P6005
5 STOP PULSE
CASSETTE IN SW
(IN…ONⓁ)
CASSETTE DOWN SW
(DOWN…ONⒽ)
MODE SELECT SW
CASSETTE UP SW
NC
C
❶
❷
❸
❹
❺
❻
❼
⓿
P6020
2 F. LOADING ⊕
1 F. LOADING ⊖
5 LOADING ⊖
4 LOADING ⊕
IC6007
MN1400VKC
A3
A2
A1
A0
LOADING
(−)
(+)
RX6006
R6036
R6035
P6029
5 SUB LOADING
FRONT
LOADING MOTOR
M
P6501
4 F. LOADING ⊕
3 F. LOADING ⊖
P6503
11 FRONT LOADING
10 FRONT LOADING
9 LOADING
8 LOADING
1 SUB LOADING
Q6509
Q6506
R6518
R6517
R6512
C6503
R6509
R6510
C6502
R6511
R6516
Q6504
Q6505
Q6508
Q6507
R6548
R6547
R6550
D6514
Q6521
SUB

IG MODE (SYSTEM CONTROL) BLOCK DIAGRAM

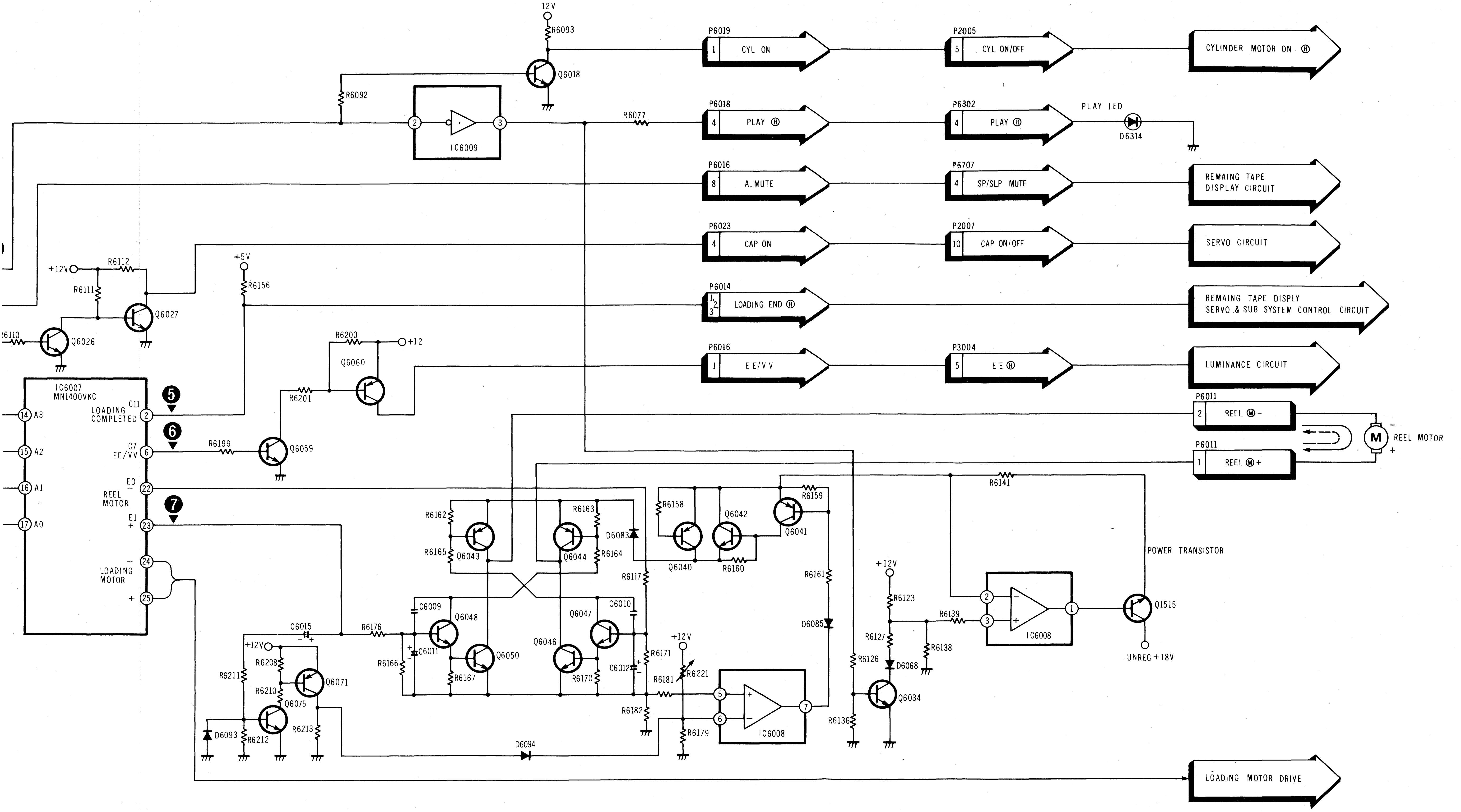


MAIN SYSTEM CONTROL
SUB SYSTEM CONTROL (I)
IC6001
MN1405VJ
10 C3
11 C2
20 B1
21 B0
19
C11
(+) 2
FRONT
LOADING
(–) 3
C10
E3 25
E2 24
E1 23
E0 22
+5V
R6002
R6003
6
P6020
2 F. LOADING ⊕
1 F. LOADING ⊖
IC6007
MN1400VKC
14 A3
15 A2
16 A1
17 A0
LOADING
(–) 24
(+) 25
RX6006
R6036
R6035
7
5 LOADING ⊖
4 LOADING ⊕
R6207
D6090
C6014
P6029
5 SUB LOADING
FRONT
LOADING MOTOR
M
P6501
4 F. LOADING ⊕
3 F. LOADING ⊖
P6503
11 FRONT LOADING
10 FRONT LOADING
9 LOADING
8 LOADING
1 SUB LOADING
Q6509
Q6506
R6518
R6517
R6513
R6512
R6514
R6515
C6503
C6505
R6509
R6510
C6502
R6511
C6504
R6516
Q6504
Q6505
Q6508
Q6507
7 LOADING MOTOR ⊖
8 LOADING MOTOR ⊕
LOADING
MOTOR
D6504
D6503
TO Q6510
R6531
R6530
Q6517
Q6514
R6526
R6525
C6507
C6509
C6506
R6523
R6524
Q6512
Q6513
R6529
C6508
R6528
Q6516
Q6515
R6522
R6527
UNREG
+18V
R6521
R6548
R6547
D6514
Q6521
R6550
R6551
Q6520
D6512
D6505
Q6511
D6506
FROM Q6510

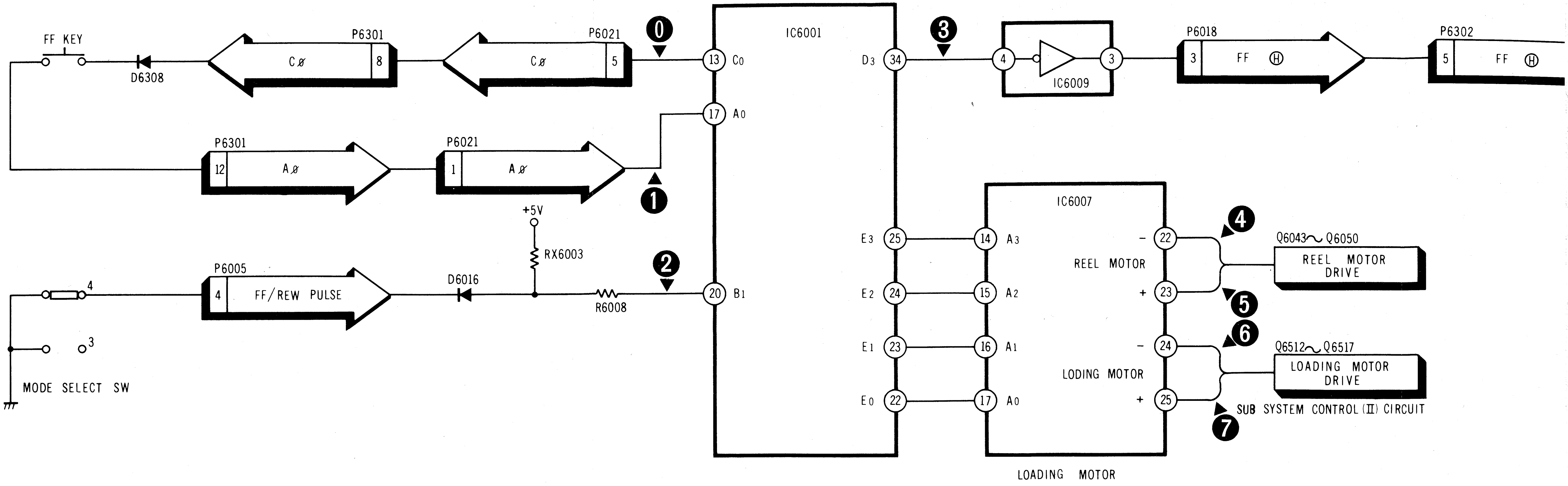
PLAY MODE (SYSTEM CONTROL) BLOCK DIAGRAM


PLAY KEY
D6305
P6301
C2
7
P6021
C2
7
⓿
P6301
9
A1
P6021
2
A1
❶
❷
IC6002
①
②
+5V
RX6003
IC6003
1
4
5
P6005
1
PLAY PULSE
7
6
3
MODE SELECT SW
❸
IC6001
MN1405VJ
11 C2
16 A1
10 C3
19 B3
D4
PLAY Ⓛ 35
C6 7
C5 8
E3 25
E2 24
E1 23
E0 22
❹
+12V
R6112
R6111
Q6027
R6110
Q6026
IC6007
MN1400VKC
14 A3
15 A2
16 A1
17 A0
C11
LOADING COMPLETED 2
C7
EE/VV 6
E0
REEL MOTOR 22
E1
+ 23
LOADING MOTOR
− 24
+ 25
❺
❻
❼
+5V
R6156
R6199
Q6059
R6201
R6200
+12
Q6060
12V
R6093
Q6018
R6092
IC6009
2
3
R6077
P6019
1
CYL ON
P6018
4
PLAY Ⓗ
P6016
8
A. MUTE
P6023
4
CAP ON
P6014
1, 2, 3
LOADING END Ⓗ
P6016
1
EE/VV
R6162
Q6043
R6165
R6163
Q6044
R6164
D6083
R6117
R6158
Q6040
Q6042
R6160
Q6041
R6159
R6161
D6085
C6009
Q6048
C6011
R6166
Q6050
R6167
Q6047
C6010
Q6046
R6170
C6012
R6171
+12V
R6221
R6181
R6182
R6179
IC6008
5
6
7
C6015
R6176
+12V
R6208
R6211
R6210
Q6071
Q6075
R6213
D6093
R6212
D6094
+12V
R6123
R6127
R6126
D6068
Q6034
R6136
TIMING A X1 CLOCK 50 mSEC DELAY 950CLOCKS
CURS(0)
0000 0000 0101 1100
TRIG(50)
0000 0000 0100 0000
0
50
100
150
(500 m)
250
0
1
2
3
4
5
6
7

RAM

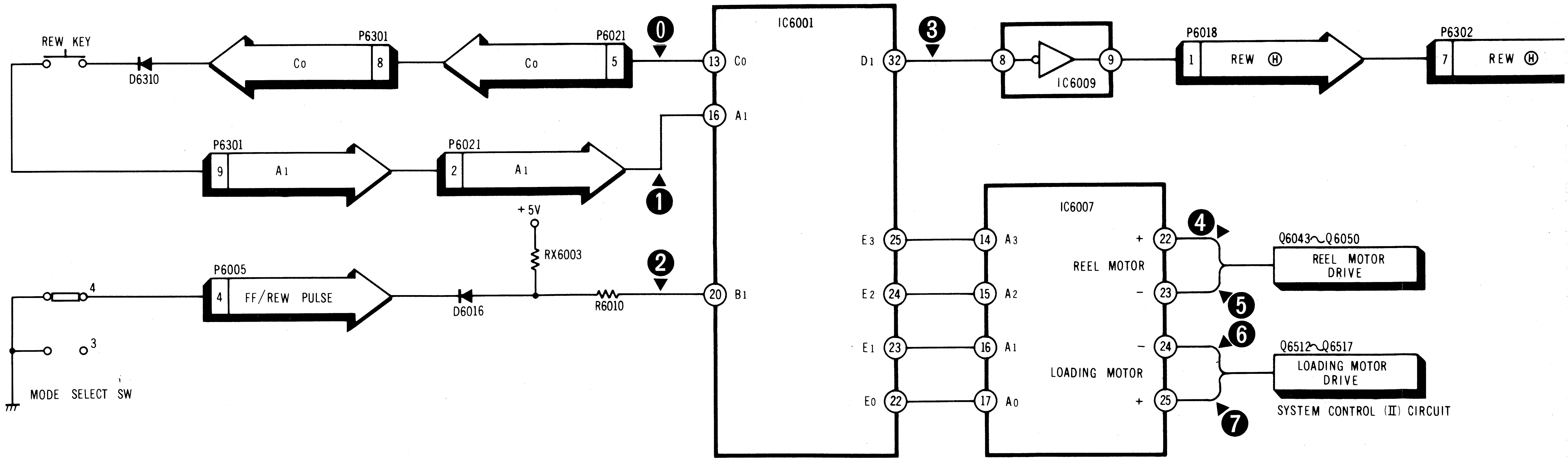

12V
R6093
Q6018
R6092
IC6009
R6077
P6019
CYL ON
P2005
CYL ON/OFF
CYLINDER MOTOR ON Ⓗ
P6018
PLAY Ⓗ
P6302
PLAY Ⓗ
PLAY LED
D6314
P6016
A. MUTE
P6707
SP/SLP MUTE
REMAING TAPE DISPLAY CIRCUIT
P6023
CAP ON
P2007
CAP ON/OFF
SERVO CIRCUIT
+12V
R6112
R6111
Q6027
+5V
R6156
P6014
LOADING END Ⓗ
REMAING TAPE DISPLY SERVO & SUB SYSTEM CONTROL CIRCUIT
R6110
Q6026
R6200
+12
Q6060
P6016
E E/V V
P3004
E E Ⓗ
LUMINANCE CIRCUIT
IC6007
MN1400VKC
R6201
P6011
REEL Ⓜ −
REEL MOTOR
P6011
REEL Ⓜ +
A3
A2
A1
A0
C11
LOADING COMPLETED
C7
EE/VV
E0
REEL MOTOR
E1
LOADING MOTOR
5
6
7
R6199
Q6059
R6141
R6162
R6163
R6158
Q6042
R6159
Q6041
D6083
R6165
Q6043
Q6044
R6164
Q6040
R6160
R6117
R6161
POWER TRANSISTOR
+12V
R6123
R6139
IC6008
Q1515
UNREG +18V
C6009
Q6048
C6010
Q6047
C6015
R6176
C6011
Q6046
D6085
R6127
R6138
R6166
Q6050
C6012
R6171
+12V
R6221
R6126
D6068
R6208
Q6071
R6211
R6167
R6170
R6181
R6210
Q6075
R6182
IC6008
Q6034
R6136
D6093
R6212
R6213
R6179
D6094
LOADING MOTOR DRIVE

FAST FORWARD MODE (SYSTEM CONTROL) BLOCK DIAGRAM



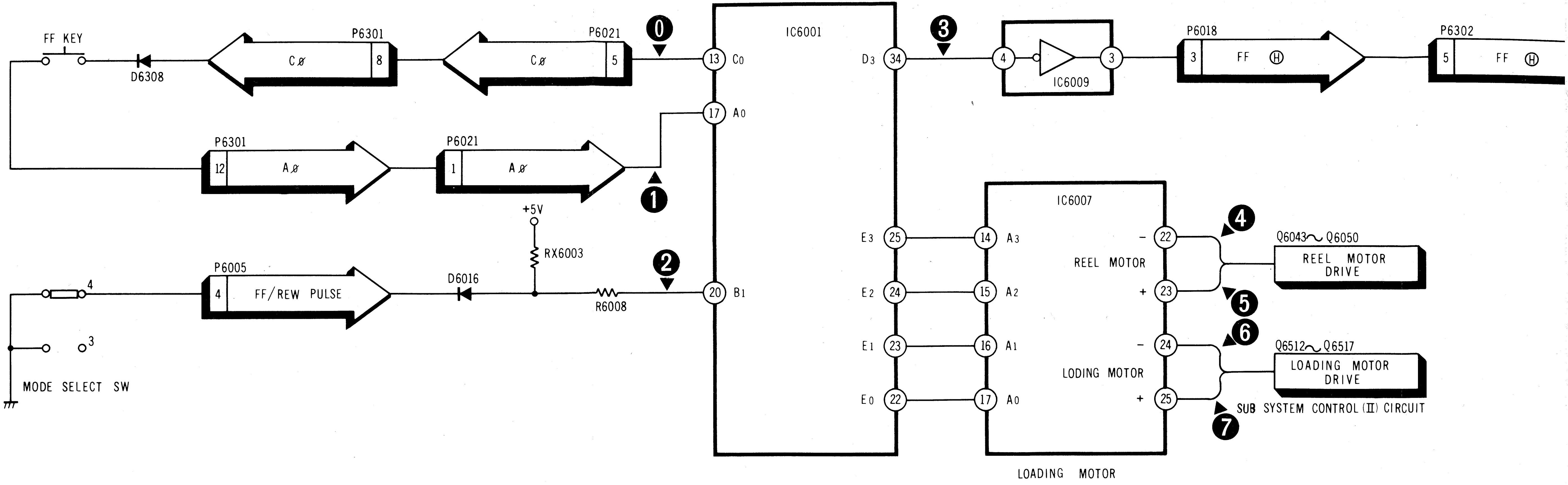
FF KEY
D6308
P6301
C0
8
P6021
C0
5
0
IC6001
13 C0
17 A0
20 B1
D3 34
E3 25
E2 24
E1 23
E0 22
3
4
IC6009
3
P6018
3
FF Ⓗ
P6302
5
FF Ⓗ
P6301
12
A0
P6021
1
A0
1
+5V
RX6003
P6005
4
FF/REW PULSE
D6016
R6008
2
4
3
MODE SELECT SW
IC6007
14 A3
15 A2
16 A1
17 A0
REEL MOTOR
LODING MOTOR
− 22
+ 23
− 24
+ 25
4
5
6
7
Q6043~Q6050
REEL MOTOR DRIVE
Q6512~Q6517
LOADING MOTOR DRIVE
SUB SYSTEM CONTROL (II) CIRCUIT
LOADING MOTOR

REWIND MODE (SYSTEM CONTROL) BLOCK DIAGRAM

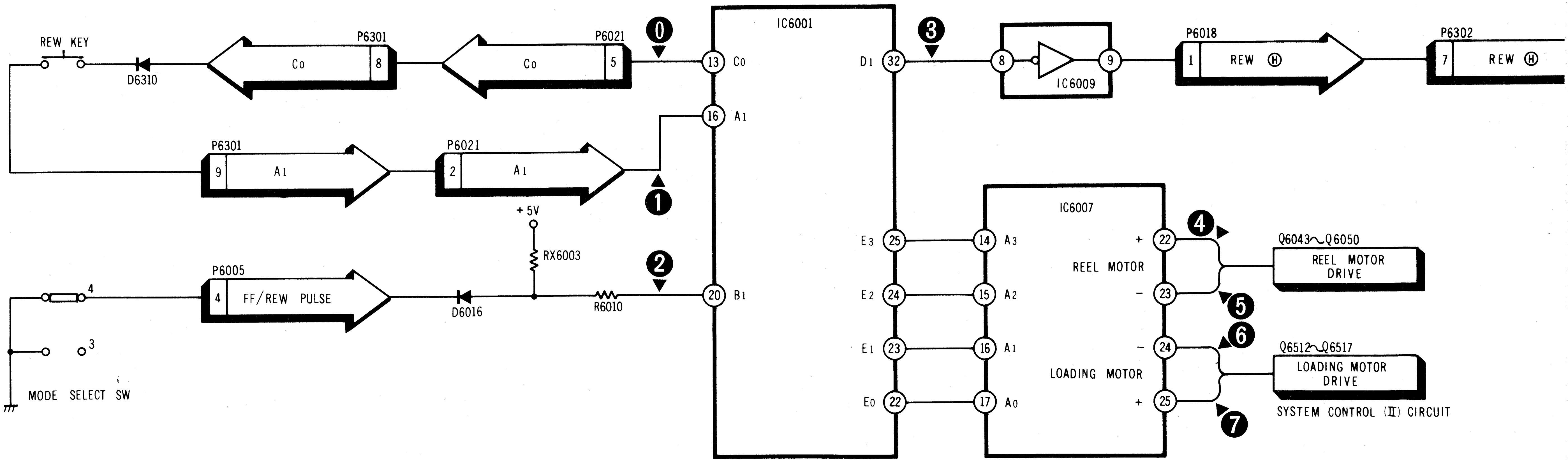


REW KEY
D6310
P6301
C0
8
P6021
C0
5
0
IC6001
13 C0
16 A1
20 B1
D1 32
E3 25
E2 24
E1 23
E0 22
3
8
IC6009
9
P6018
1
REW Ⓗ
P6302
7
REW Ⓗ
P6301
9
A1
P6021
2
A1
1
+5V
RX6003
P6005
4
FF/REW PULSE
D6016
R6010
2
4
3
MODE SELECT SW
IC6007
14 A3
15 A2
16 A1
17 A0
REEL MOTOR
LOADING MOTOR
+ 22
− 23
− 24
+ 25
4
5
6
7
Q6043~Q6050
REEL MOTOR DRIVE
Q6512~Q6517
LOADING MOTOR DRIVE
SYSTEM CONTROL (II) CIRCUIT

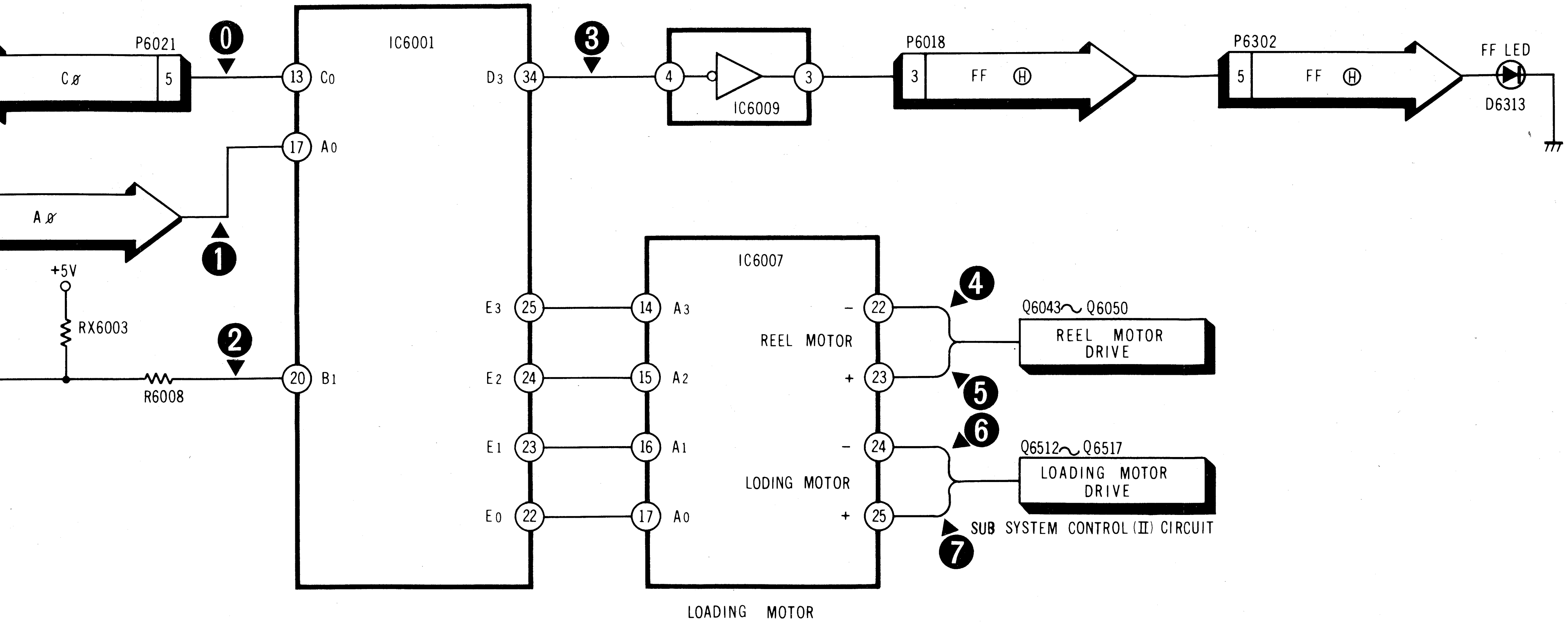
FAST FORWARD MODE (SYSTEM CONTROL) BLOCK DIAGRAM

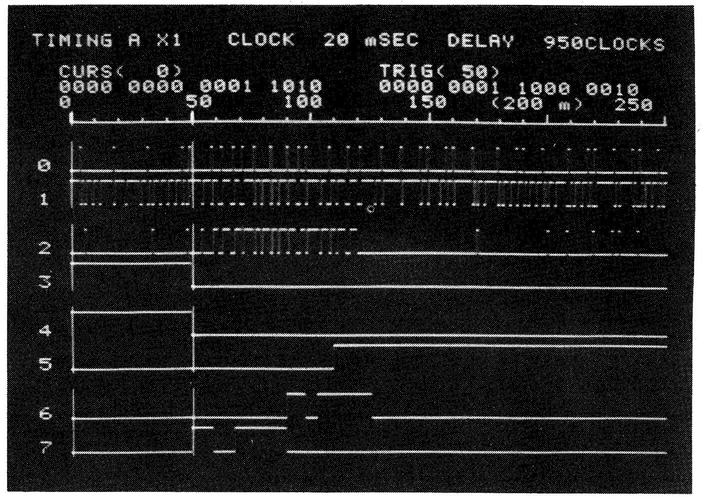

FF KEY
D6308
P6301
C0
8
P6021
C0
5
⓿
IC6001
13 C0
17 A0
20 B1
D3 34
E3 25
E2 24
E1 23
E0 22
❸
4
IC6009
3
P6018
3
FF Ⓗ
P6302
5
FF Ⓗ
P6301
12
A0
P6021
1
A0
❶
+5V
RX6003
P6005
4
FF/REW PULSE
D6016
R6008
❷
4
3
MODE SELECT SW
IC6007
14 A3
15 A2
16 A1
17 A0
REEL MOTOR
LODING MOTOR
22 −
23 +
24 −
25 +
❹
❺
❻
❼
Q6043~Q6050
REEL MOTOR DRIVE
Q6512~Q6517
LOADING MOTOR DRIVE
SUB SYSTEM CONTROL (II) CIRCUIT
LOADING MOTOR

REWIND MODE (SYSTEM CONTROL) BLOCK DIAGRAM


REW KEY
D6310
P6301
C0
8
P6021
C0
5
⓿
IC6001
13 C0
16 A1
20 B1
D1 32
E3 25
E2 24
E1 23
E0 22
❸
8
IC6009
9
P6018
1
REW Ⓗ
P6302
7
REW Ⓗ
P6301
9
A1
P6021
2
A1
❶
+5V
RX6003
P6005
4
FF/REW PULSE
D6016
R6010
❷
4
3
MODE SELECT SW
IC6007
14 A3
15 A2
16 A1
17 A0
REEL MOTOR
LOADING MOTOR
22 +
23 −
24 −
25 +
❹
❺
❻
❼
Q6043~Q6050
REEL MOTOR DRIVE
Q6512~Q6517
LOADING MOTOR DRIVE
SYSTEM CONTROL (II) CIRCUIT

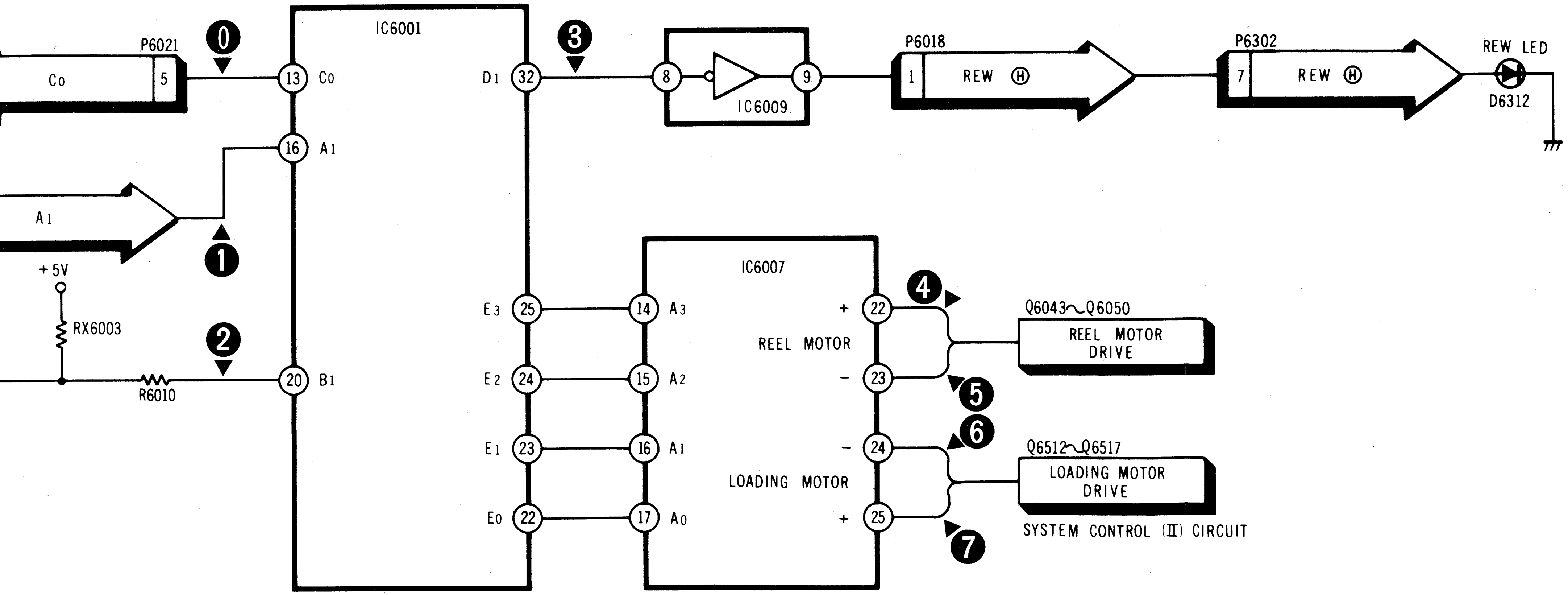
CONTROL) BLOCK DIAGRAM

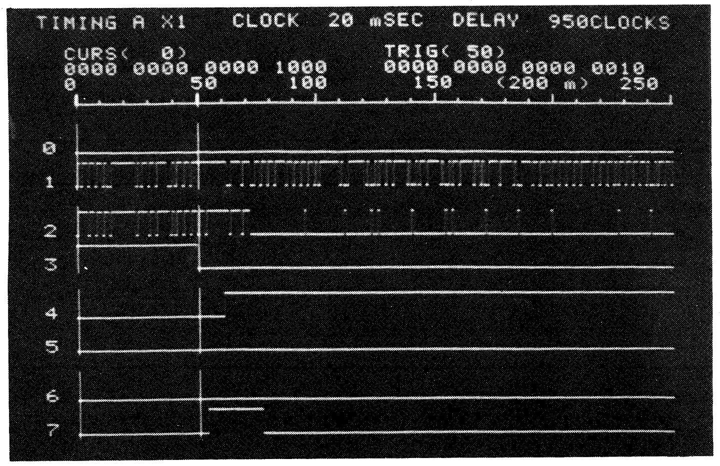

P6021
C∅
5
0
1
2
3
4
5
6
7
A∅
+5V
RX6003
R6008
IC6001
13 C0
17 A0
20 B1
D3 34
E3 25
E2 24
E1 23
E0 22
4
3
IC6009
P6018
3 FF Ⓗ
P6302
5 FF Ⓗ
FF LED
D6313
IC6007
14 A3
15 A2
16 A1
17 A0
REEL MOTOR
LODING MOTOR
− 22
+ 23
− 24
+ 25
Q6043～Q6050
REEL MOTOR DRIVE
Q6512～Q6517
LOADING MOTOR DRIVE
SUB SYSTEM CONTROL (II) CIRCUIT
LOADING MOTOR



```
TIMING A X1   CLOCK  20 mSEC  DELAY  950CLOCKS
  CURS(   0)                TRIG( 50)
  0000 0000 0001 1010       0000 0001 1000 0010
  0         50       100        150    (200 m)  250
```

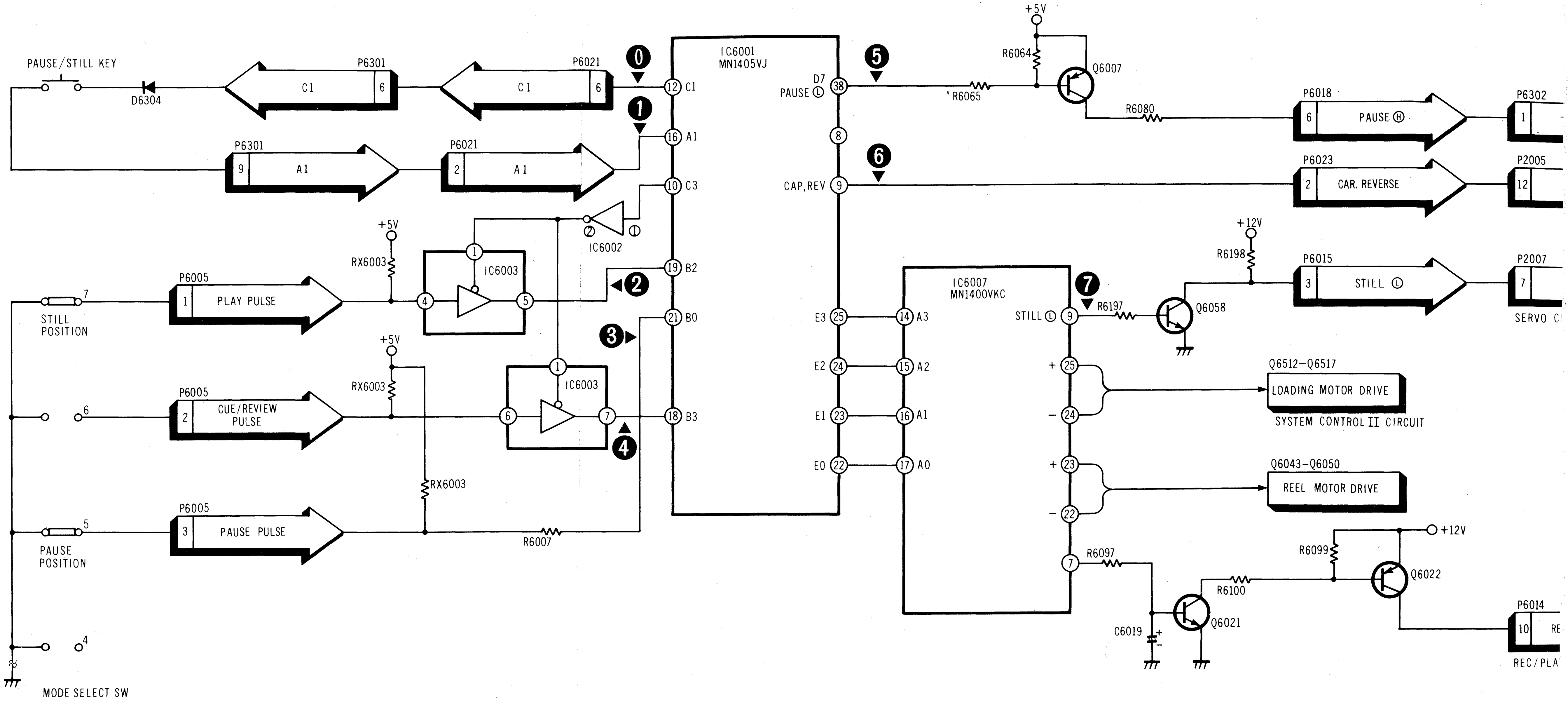
L) BLOCK DIAGRAM


P6021
C0
5
0
1
2
3
4
5
6
7
A1
+5V
RX6003
R6010
IC6001
13 C0
16 A1
20 B1
D1 32
E3 25
E2 24
E1 23
E0 22
8
9
IC6009
P6018
1 REW Ⓗ
P6302
7 REW Ⓗ
REW LED
D6312
IC6007
14 A3
15 A2
16 A1
17 A0
REEL MOTOR
LOADING MOTOR
+ 22
− 23
− 24
+ 25
Q6043～Q6050
REEL MOTOR DRIVE
Q6512～Q6517
LOADING MOTOR DRIVE
SYSTEM CONTROL (II) CIRCUIT

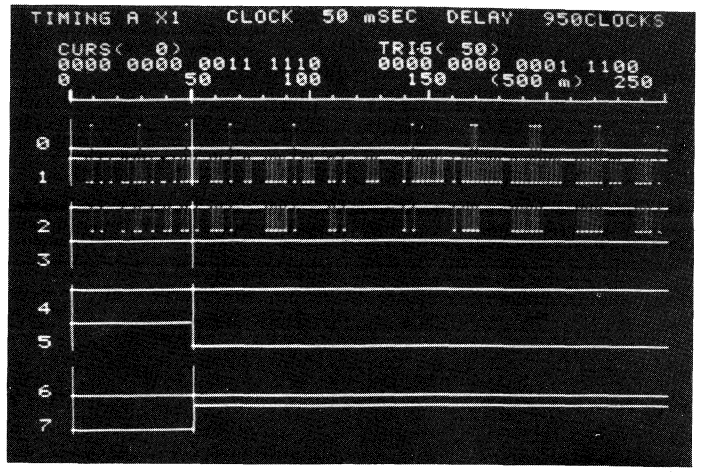


```
TIMING A X1   CLOCK  20 mSEC  DELAY  950CLOCKS
  CURS(   0)                TRIG( 50)
  0000 0000 0000 1000       0000 0000 0000 0010
  0         50       100        150    (200 m)  250
```

PAUSE/STILL MODE (SYSTEM CONTROL) BLOCK DIAGRAM

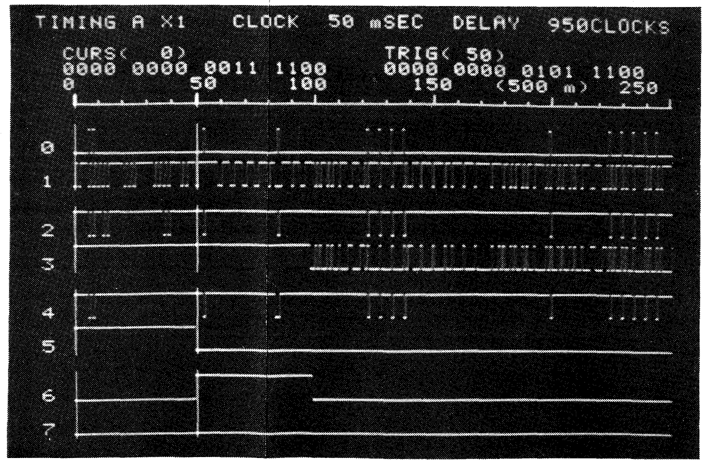

PAUSE/STILL KEY
D6304
P6301
C1
6
P6021
C1
6
⓿
❶
IC6001
MN1405VJ
12 C1
16 A1
10 C3
19 B2
21 B0
18 B3
D7
PAUSE Ⓛ
38
8
CAP.REV 9
E3 25
E2 24
E1 23
E0 22
❺
❻
P6301
9 A1
P6021
2 A1
+5V
RX6003
IC6002
② ①
IC6003
1
4
5
❷
P6005
1 PLAY PULSE
7
STILL
POSITION
❸
+5V
RX6003
IC6003
1
6
7
❹
6
P6005
2 CUE/REVIEW PULSE
RX6003
P6005
3 PAUSE PULSE
5
PAUSE
POSITION
R6007
4
MODE SELECT SW
+5V
R6064
Q6007
R6065
R6080
P6018
6 PAUSE Ⓗ
P6302
1
P6023
2 CAP. REVERSE
P2005
12
+12V
R6198
P6015
3 STILL Ⓛ
P2007
7
SERVO C
IC6007
MN1400VKC
14 A3
15 A2
16 A1
17 A0
STILL Ⓛ 9
❼
R6197
Q6058
+ 25
− 24
Q6512–Q6517
LOADING MOTOR DRIVE
SYSTEM CONTROL II CIRCUIT
+ 23
− 22
Q6043–Q6050
REEL MOTOR DRIVE
7
R6097
C6019
Q6021
R6100
R6099
+12V
Q6022
P6014
10 RE
REC/PLA

PLAY → PAUSE/STILL



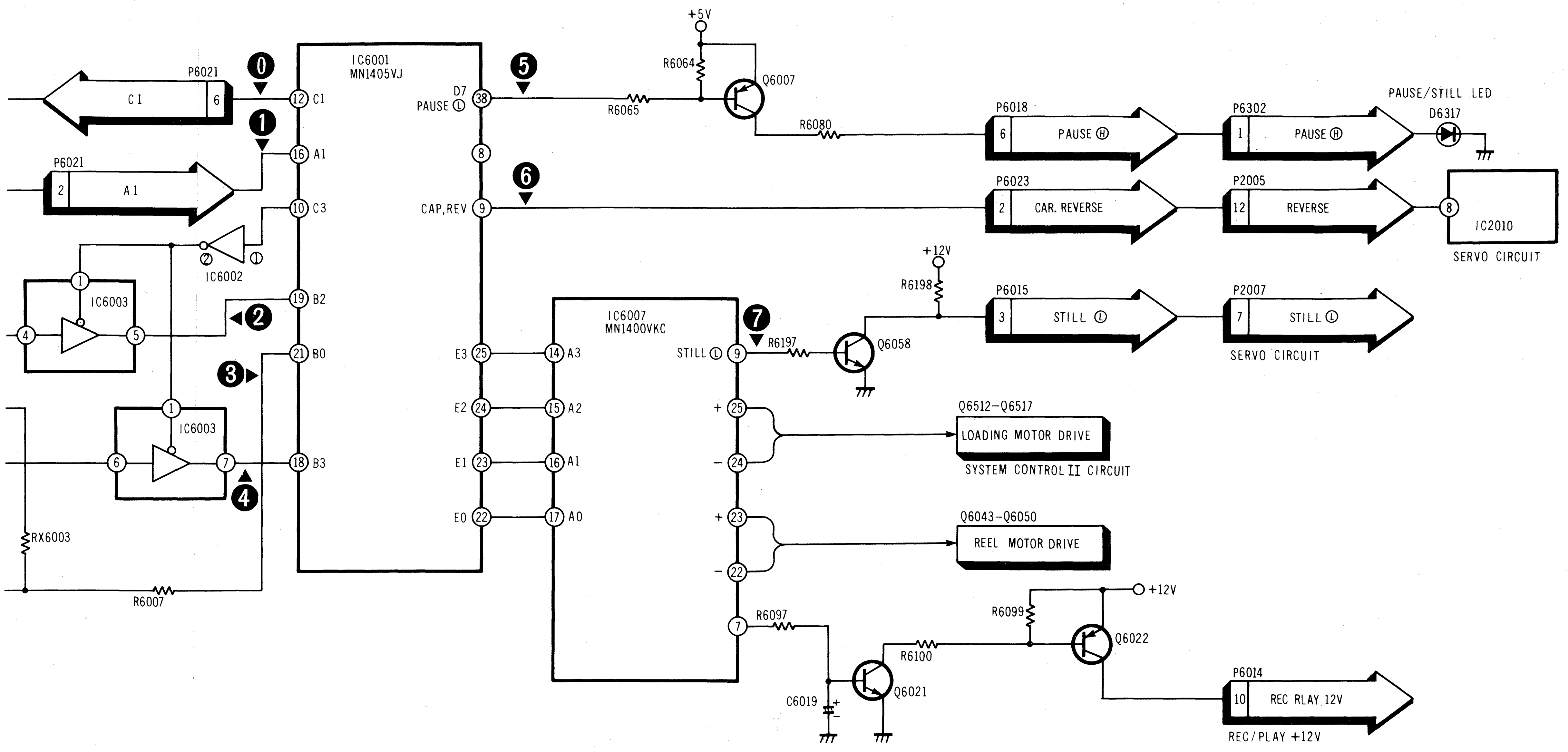
```
TIMING A X1   CLOCK  50 mSEC  DELAY  950CLOCKS
  CURS<   0>              TRIG< 50>
  0000 0000 0011 1110     0000 0000 0001 1100
  0         50      100        150    <500 m>   250
```

REC → PAUSE/STILL



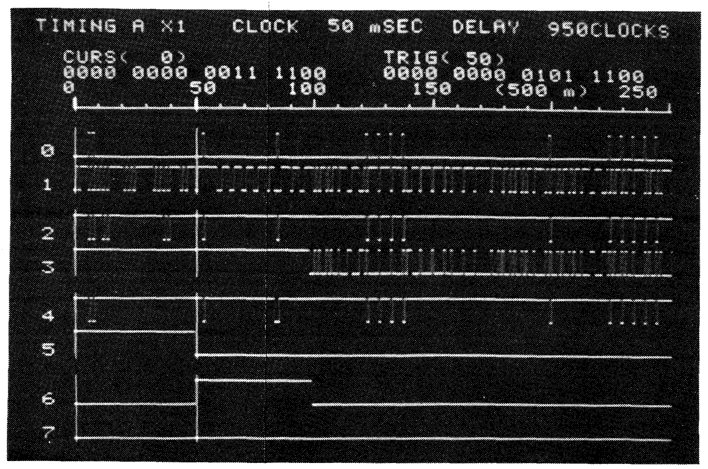
```
TIMING A X1   CLOCK  50 mSEC  DELAY  950CLOCKS
  CURS<   0>              TRIG< 50>
  0000 0000 0011 1100     0000 0000 0101 1100
  0         50      100        150    <500 m>   250
```

M CONTROL) BLOCK DIAGRAM



IC6001
MN1405VJ
P6021
C1
6
12 C1
0
1
16 A1
P6021
2
A1
10 C3
IC6002
② ①
IC6003
1
19 B2
2
4
5
21 B0
3
IC6003
1
6
7
18 B3
4
RX6003
R6007
D7
PAUSE Ⓛ
38
5
8
CAP,REV
9
6
E3 25
E2 24
E1 23
E0 22
+5V
R6064
Q6007
R6065
R6080
P6018
6
PAUSE Ⓗ
P6302
1
PAUSE Ⓗ
PAUSE/STILL LED
D6317
P6023
2
CAR. REVERSE
P2005
12
REVERSE
8
IC2010
SERVO CIRCUIT
IC6007
MN1400VKC
14 A3
15 A2
16 A1
17 A0
STILL Ⓛ
9
7
R6197
Q6058
+12V
R6198
P6015
3
STILL Ⓛ
P2007
7
STILL Ⓛ
SERVO CIRCUIT
+ 25
− 24
Q6512–Q6517
LOADING MOTOR DRIVE
SYSTEM CONTROL II CIRCUIT
+ 23
− 22
Q6043–Q6050
REEL MOTOR DRIVE
7
R6097
C6019
Q6021
R6100
R6099
Q6022
+12V
P6014
10
REC RLAY 12V
REC/PLAY +12V

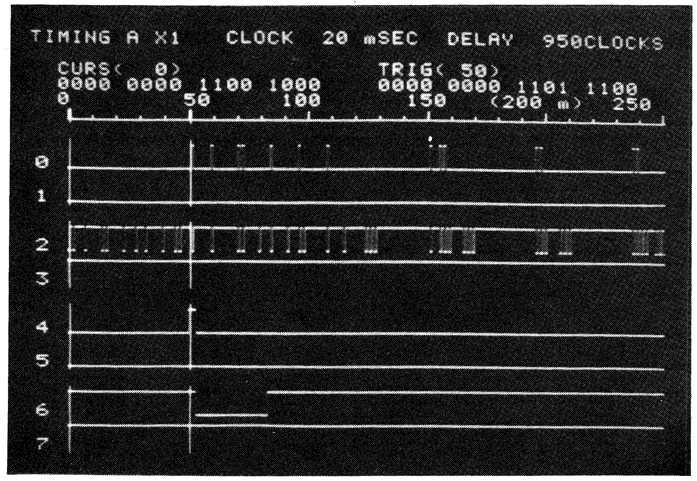
REC → PAUSE/STILL



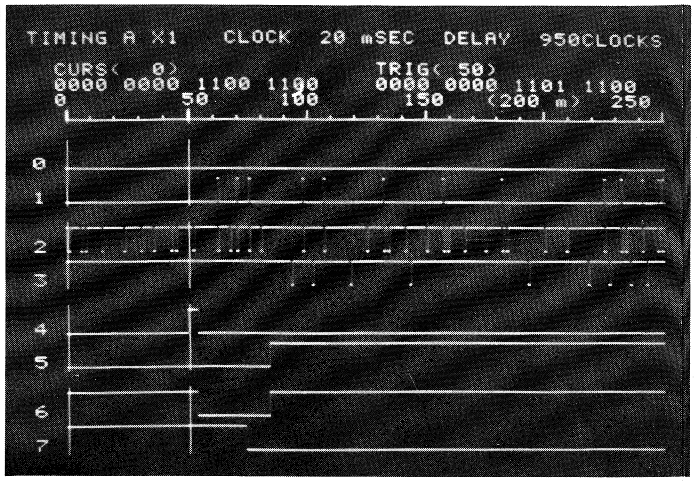
```
TIMING A X1    CLOCK  50 mSEC  DELAY  950CLOCKS
 CURS(  0)              TRIG( 50)
 0000 0000 0011 1100    0000 0000 0101 1100
 0        50      100       150    (500 m)   250
```

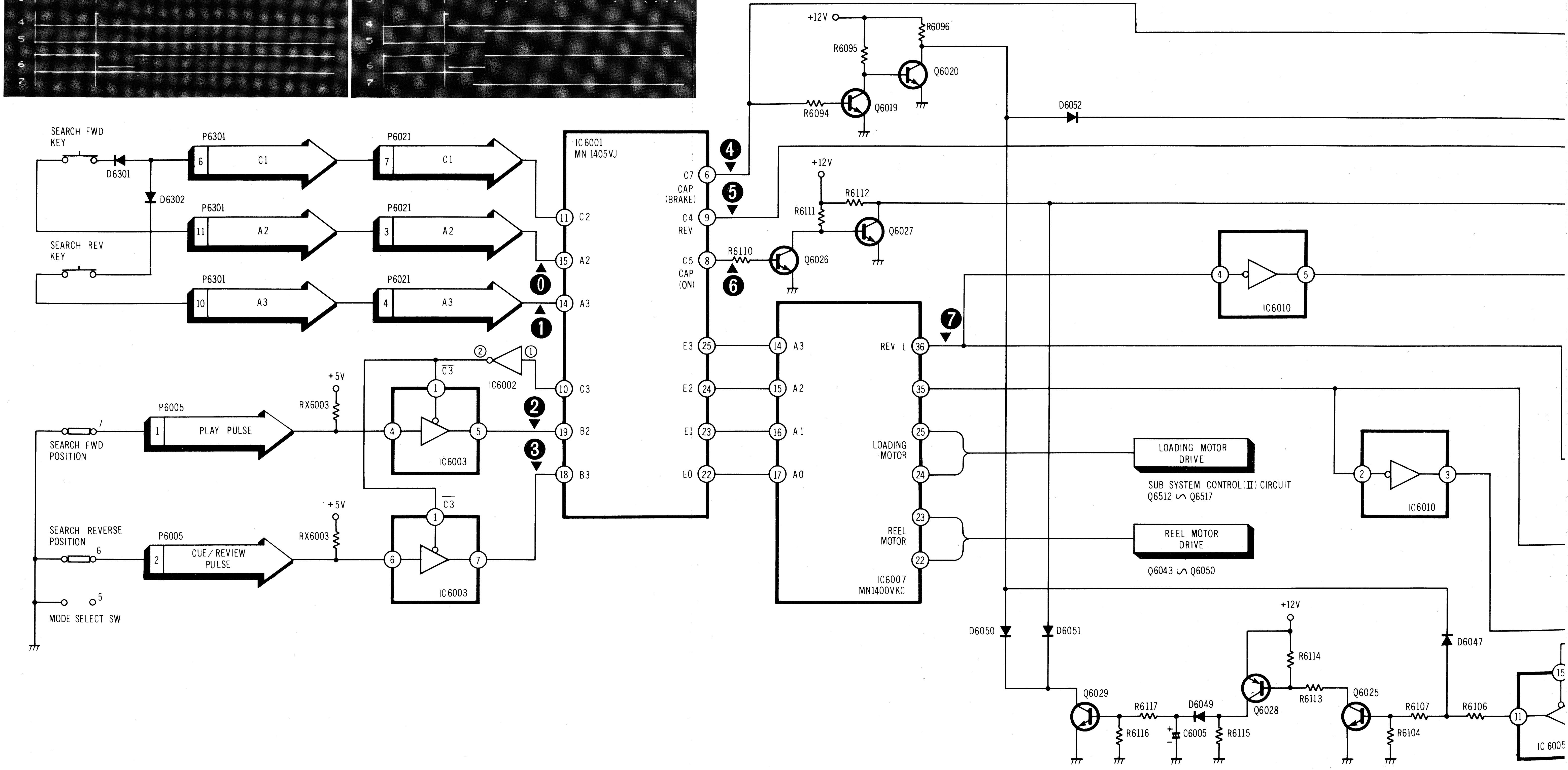
SEARCH FORWARD/REVERSE MODE (SYSTEM CONTROL) BLOCK DIA

PLAY → CUE

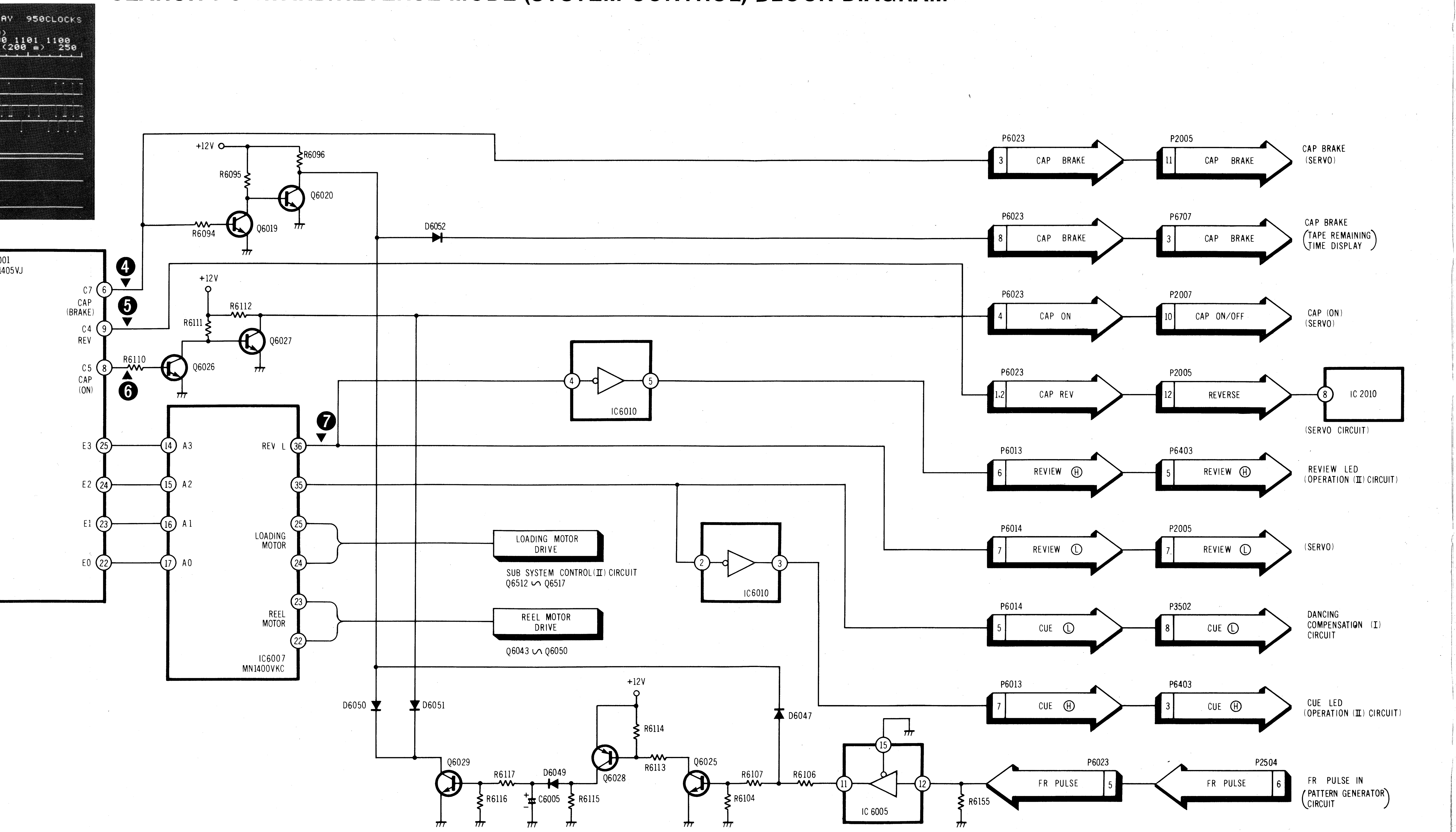

TIMING A X1 CLOCK 20 mSEC DELAY 950CLOCKS
CURS(0) TRIG(50)
0000 0000 1100 1000 0000 0000 1101 1100
0 50 100 150 (200 m) 250
0
1
2
3
4
5
6
7

PLAY → REVIEW

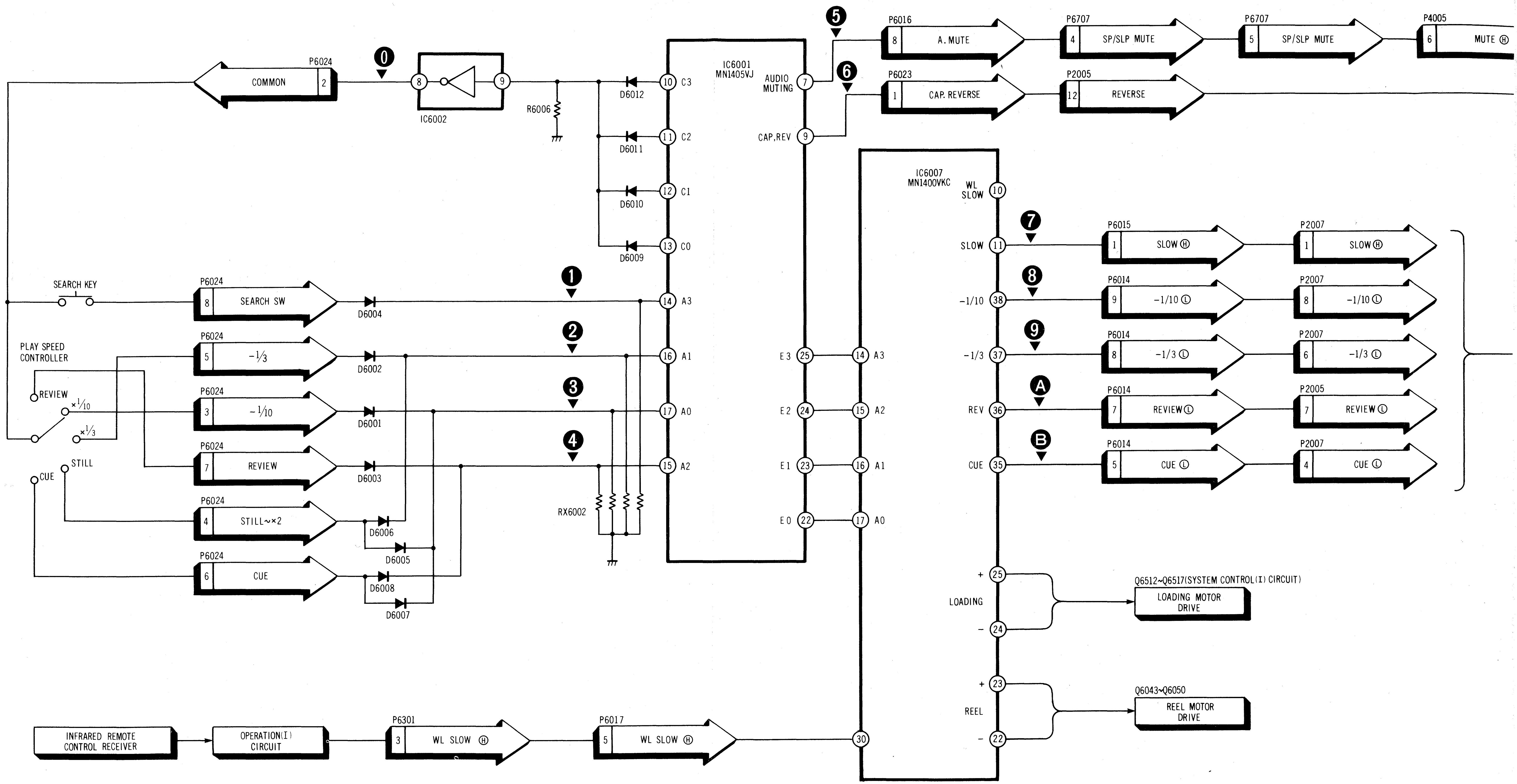

TIMING A X1 CLOCK 20 mSEC DELAY 950CLOCKS
CURS(0) TRIG(50)
0000 0000 1100 1100 0000 0000 1101 1100
0 50 100 150 (200 m) 250
0
1
2
3
4
5
6
7


SEARCH FWD KEY
D6301
D6302
SEARCH REV KEY
P6301
C1
A2
A3
P6021
IC6001 MN 1405VJ
C2
A2
A3
C3
B2
B3
C7 CAP (BRAKE)
C4 REV
C5 CAP (ON)
E3
E2
E1
E0
IC6002
C3
+5V
RX6003
P6005
PLAY PULSE
CUE/REVIEW PULSE
IC6003
SEARCH FWD POSITION
SEARCH REVERSE POSITION
MODE SELECT SW
+12V
R6096
R6095
Q6020
R6094
Q6019
D6052
R6112
R6111
Q6027
R6110
Q6026
IC6010
A3
A2
A1
A0
REV L
LOADING MOTOR
REEL MOTOR
IC6007 MN1400VKC
LOADING MOTOR DRIVE
SUB SYSTEM CONTROL(II) CIRCUIT Q6512 ∽ Q6517
REEL MOTOR DRIVE
Q6043 ∽ Q6050
D6050
D6051
D6047
Q6029
R6117
D6049
R6116
C6005
R6115
Q6028
R6114
R6113
Q6025
R6107
R6106
R6104
IC 6005
0
1
2
3
4
5
6
7

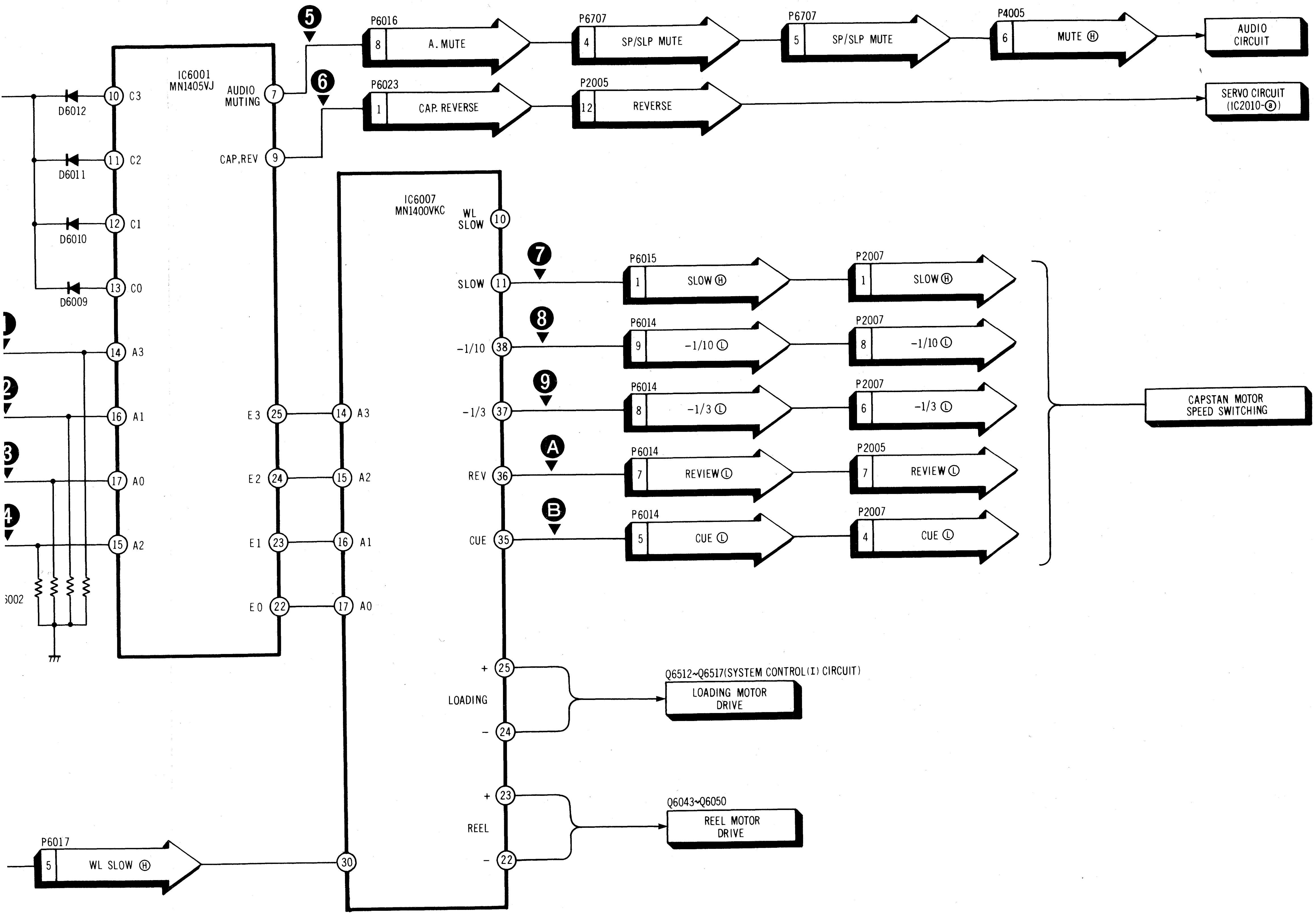
SEARCH FORWARD/REVERSE MODE (SYSTEM CONTROL) BLOCK DIAGRAM


AY 950CLOCKS
0 1101 1100
(200 m) 250
001
1405VJ
C7
CAP
(BRAKE)
C4
REV
C5
CAP
(ON)
4
5
6
7
+12V
R6096
R6095
Q6020
R6094
Q6019
D6052
+12V
R6112
R6111
Q6027
R6110
Q6026
IC6010
E3
E2
E1
E0
A3
A2
A1
A0
REV L
LOADING
MOTOR
REEL
MOTOR
IC6007
MN1400VKC
LOADING MOTOR
DRIVE
SUB SYSTEM CONTROL (II) CIRCUIT
Q6512 ∽ Q6517
REEL MOTOR
DRIVE
Q6043 ∽ Q6050
IC6010
D6050
D6051
D6047
+12V
R6114
R6113
Q6028
Q6029
R6117
D6049
R6116
C6005
R6115
Q6025
R6107
R6104
R6106
IC 6005
R6155
P6023
3 CAP BRAKE
P2005
11 CAP BRAKE
CAP BRAKE
(SERVO)
P6023
8 CAP BRAKE
P6707
3 CAP BRAKE
CAP BRAKE
(TAPE REMAINING
TIME DISPLAY)
P6023
4 CAP ON
P2007
10 CAP ON/OFF
CAP (ON)
(SERVO)
P6023
1,2 CAP REV
P2005
12 REVERSE
IC 2010
(SERVO CIRCUIT)
P6013
6 REVIEW Ⓗ
P6403
5 REVIEW Ⓗ
REVIEW LED
(OPERATION (II) CIRCUIT)
P6014
7 REVIEW Ⓛ
P2005
7 REVIEW Ⓛ
(SERVO)
P6014
5 CUE Ⓛ
P3502
8 CUE Ⓛ
DANCING
COMPENSATION (I)
CIRCUIT
P6013
7 CUE Ⓗ
P6403
3 CUE Ⓗ
CUE LED
(OPERATION (II) CIRCUIT)
P6023
FR PULSE 5
P2504
FR PULSE 6
FR PULSE IN
(PATTERN GENERATOR
CIRCUIT)

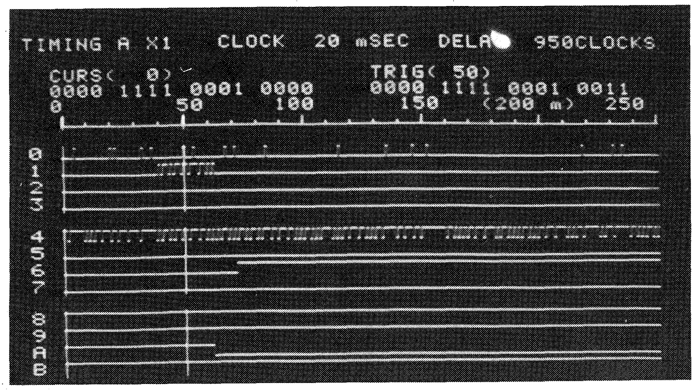
SLOW MODE (SYSTEM CONTROL) BLOCK DIAGRAM


P6024
COMMON
2
⓿
IC6002
8
9
R6006
D6012
D6011
D6010
D6009
IC6001
MN1405VJ
10 C3
11 C2
12 C1
13 C0
AUDIO
MUTING
7
CAP,REV
9
❺
P6016
8
A. MUTE
P6707
4
SP/SLP MUTE
P6707
5
SP/SLP MUTE
P4005
6
MUTE Ⓗ
❻
P6023
1
CAP. REVERSE
P2005
12
REVERSE
IC6007
MN1400VKC
WL
SLOW
10
SLOW
11
❼
P6015
1
SLOW Ⓗ
P2007
1
SLOW Ⓗ
−1/10
38
❽
P6014
9
−1/10 Ⓛ
P2007
8
−1/10 Ⓛ
−1/3
37
❾
P6014
8
−1/3 Ⓛ
P2007
6
−1/3 Ⓛ
REV
36
Ⓐ
P6014
7
REVIEW Ⓛ
P2005
7
REVIEW Ⓛ
CUE
35
Ⓑ
P6014
5
CUE Ⓛ
P2007
4
CUE Ⓛ
SEARCH KEY
P6024
8
SEARCH SW
D6004
❶
14 A3
PLAY SPEED
CONTROLLER
P6024
5
−⅓
D6002
❷
16 A1
REVIEW
×1/10
×1/3
P6024
3
−1/10
D6001
❸
17 A0
P6024
7
REVIEW
D6003
❹
15 A2
CUE
STILL
P6024
4
STILL~×2
D6006
D6005
RX6002
P6024
6
CUE
D6008
D6007
E3 25
E2 24
E1 23
E0 22
14 A3
15 A2
16 A1
17 A0
LOADING
+ 25
− 24
Q6512~Q6517(SYSTEM CONTROL(I) CIRCUIT)
LOADING MOTOR
DRIVE
REEL
+ 23
− 22
Q6043~Q6050
REEL MOTOR
DRIVE
INFRARED REMOTE
CONTROL RECEIVER
OPERATION(I)
CIRCUIT
P6301
3
WL SLOW Ⓗ
P6017
5
WL SLOW Ⓗ
30

GRAM


IC6001
MN1405VJ
AUDIO MUTING
CAP.REV
⑩ C3
⑪ C2
⑫ C1
⑬ C0
⑭ A3
⑯ A1
⑰ A0
⑮ A2
D6012
D6011
D6010
D6009
5002
E3 ㉕
E2 ㉔
E1 ㉓
E0 ㉒
⑦
⑨
❺
❻
P6016
8 A. MUTE
P6707
4 SP/SLP MUTE
P6707
5 SP/SLP MUTE
P4005
6 MUTE Ⓗ
AUDIO CIRCUIT
P6023
1 CAP. REVERSE
P2005
12 REVERSE
SERVO CIRCUIT (IC2010-ⓐ)
IC6007
MN1400VKC
⑭ A3
⑮ A2
⑯ A1
⑰ A0
WL SLOW ⑩
SLOW ⑪
−1/10 ㊳
−1/3 ㊲
REV ㊱
CUE ㉟
❼
❽
❾
Ⓐ
Ⓑ
P6015
1 SLOW Ⓗ
P2007
1 SLOW Ⓗ
P6014
9 −1/10 Ⓛ
P2007
8 −1/10 Ⓛ
P6014
8 −1/3 Ⓛ
P2007
6 −1/3 Ⓛ
P6014
7 REVIEW Ⓛ
P2005
7 REVIEW Ⓛ
P6014
5 CUE Ⓛ
P2007
4 CUE Ⓛ
CAPSTAN MOTOR SPEED SWITCHING
LOADING
+ ㉕
− ㉔
Q6512~Q6517(SYSTEM CONTROL(I) CIRCUIT)
LOADING MOTOR DRIVE
REEL
+ ㉓
− ㉒
Q6043~Q6050
REEL MOTOR DRIVE
P6017
5 WL SLOW Ⓗ
㉚

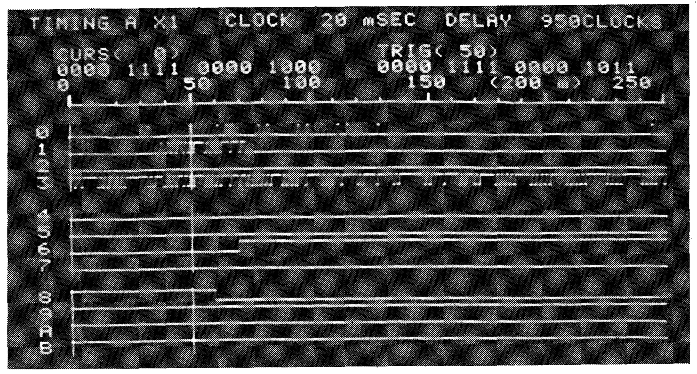
PLAY → REVIEW



```
TIMING A X1   CLOCK  20 mSEC  DELA   950CLOCKS
  CURS(   0)                TRIG( 50)
  0000 1111 0001 0000       0000 1111 0001 0011
  0         50       100          150    (200 m)   250
```

0
1
2
3
4
5
6
7
8
9
A
B

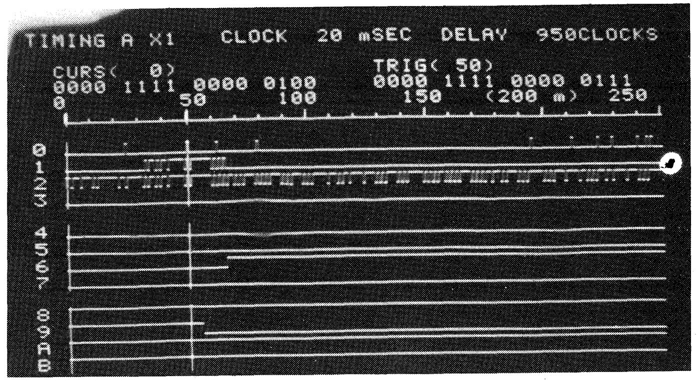
PLAY → X-1/10 SLOW



```
TIMING A X1   CLOCK  20 mSEC  DELAY  950CLOCKS
  CURS(   0)                TRIG( 50)
  0000 1111 0000 1000       0000 1111 0000 1011
  0         50       100          150    (200 m)   250
```

0
1
2
3
4
5
6
7
8
9
A
B

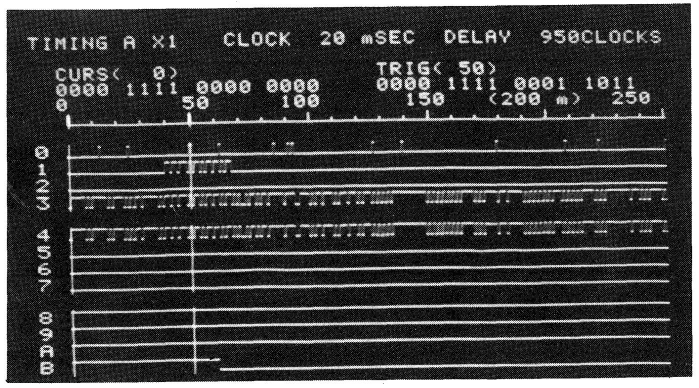
PLAY → X-1/3 SLOW



```
TIMING A X1   CLOCK  20 mSEC  DELAY  950CLOCKS
  CURS(   0)                TRIG( 50)
  0000 1111 0000 0100       0000 1111 0000 0111
  0         50       100          150    (200 m)   250
```

0
1
2
3
4
5
6
7
8
9
A
B

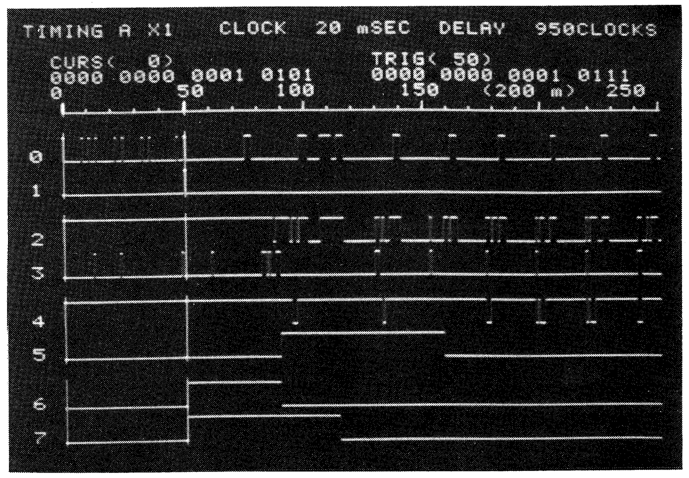
PLAY → CUE

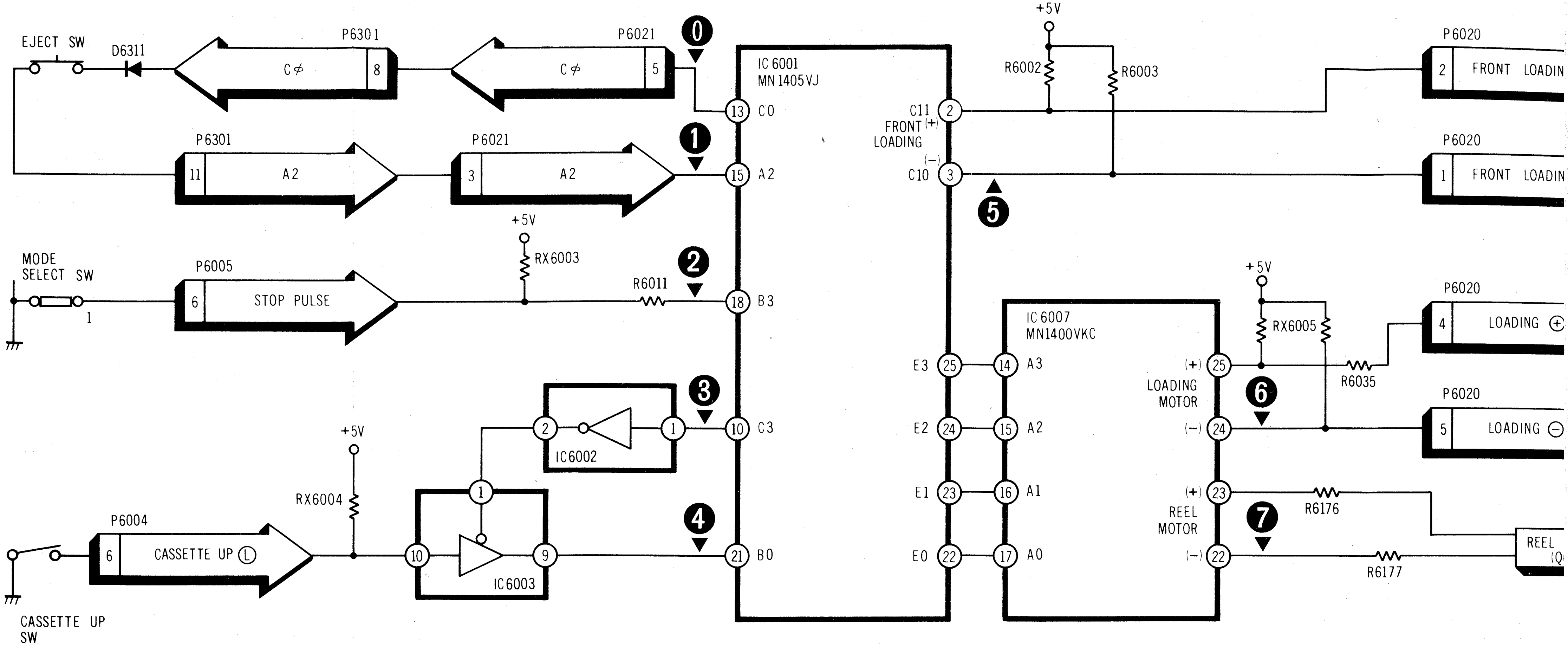


```
TIMING A X1   CLOCK  20 mSEC  DELAY  950CLOCKS
  CURS(   0)                TRIG( 50)
  0000 1111 0000 0000       0000 1111 0001 1011
  0         50       100          150    (200 m)   250
```

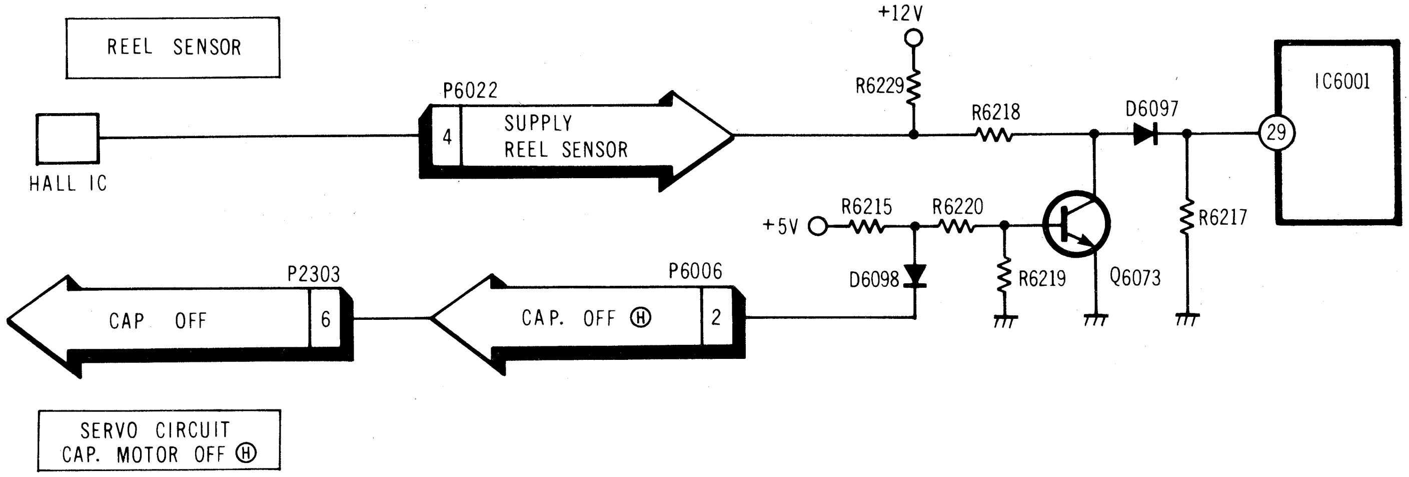
0
1
2
3
4
5
6
7
8
9
A
B

EJECT MODE (SYSTEM CONTROL) BLOCK DIAGRAM

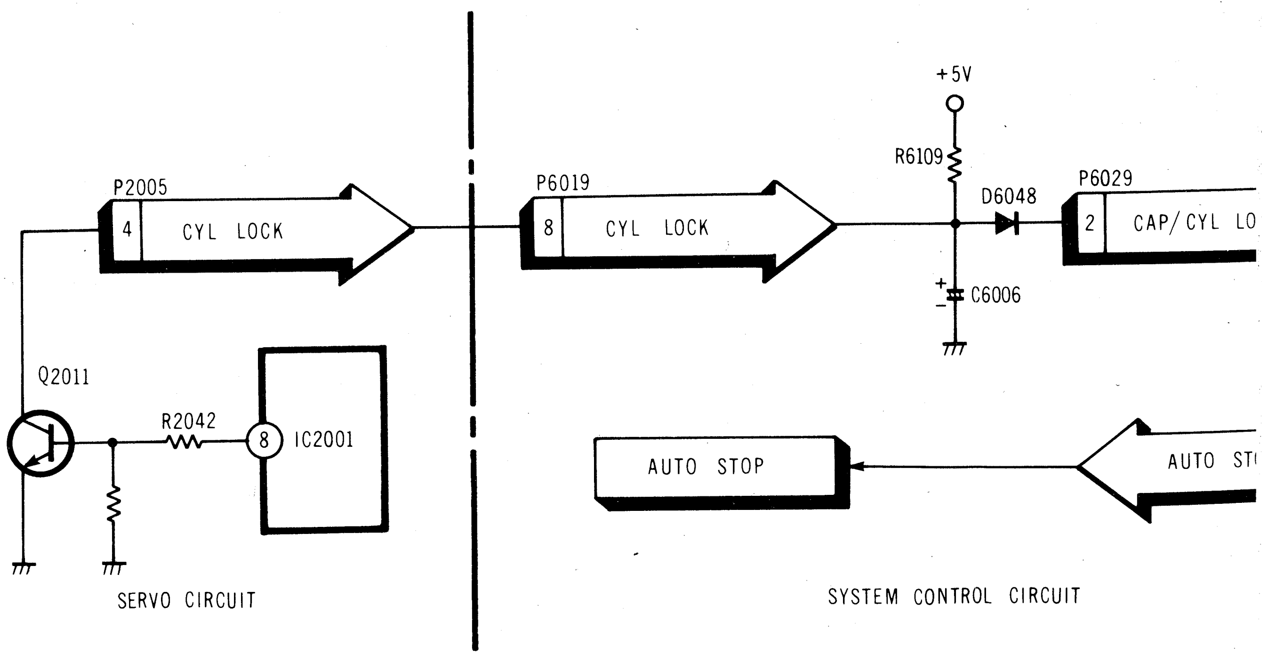

TIMING A X1 CLOCK 20 mSEC DELAY 950CLOCKS
CURS(0)
0000 0000 0001 0101
0 50 100
TRIG(50)
0000 0000 0001 0111
150 (200 m) 250
0
1
2
3
4
5
6
7


EJECT SW
D6311
P6301
C⌀
8
P6021
C⌀
5
❶
❶
P6301
11
A2
P6021
3
A2
MODE SELECT SW
1
P6005
6
STOP PULSE
+5V
RX6003
R6011
❷
+5V
RX6004
P6004
6
CASSETTE UP Ⓛ
CASSETTE UP SW
IC6002
❸
IC6003
❹
IC6001
MN1405VJ
13 C0
15 A2
18 B3
10 C3
21 B0
C11 2
FRONT (+) LOADING (−)
C10 3
❺
E3 25
E2 24
E1 23
E0 22
IC6007
MN1400VKC
14 A3
15 A2
16 A1
17 A0
LOADING MOTOR
(+) 25
(−) 24
REEL MOTOR
(+) 23
(−) 22
❻
❼
+5V
R6002
R6003
+5V
RX6005
R6035
R6176
R6177
P6020
2 FRONT LOADIN
P6020
1 FRONT LOADIN
P6020
4 LOADING ⊕
P6020
5 LOADING ⊖
REEL (Q

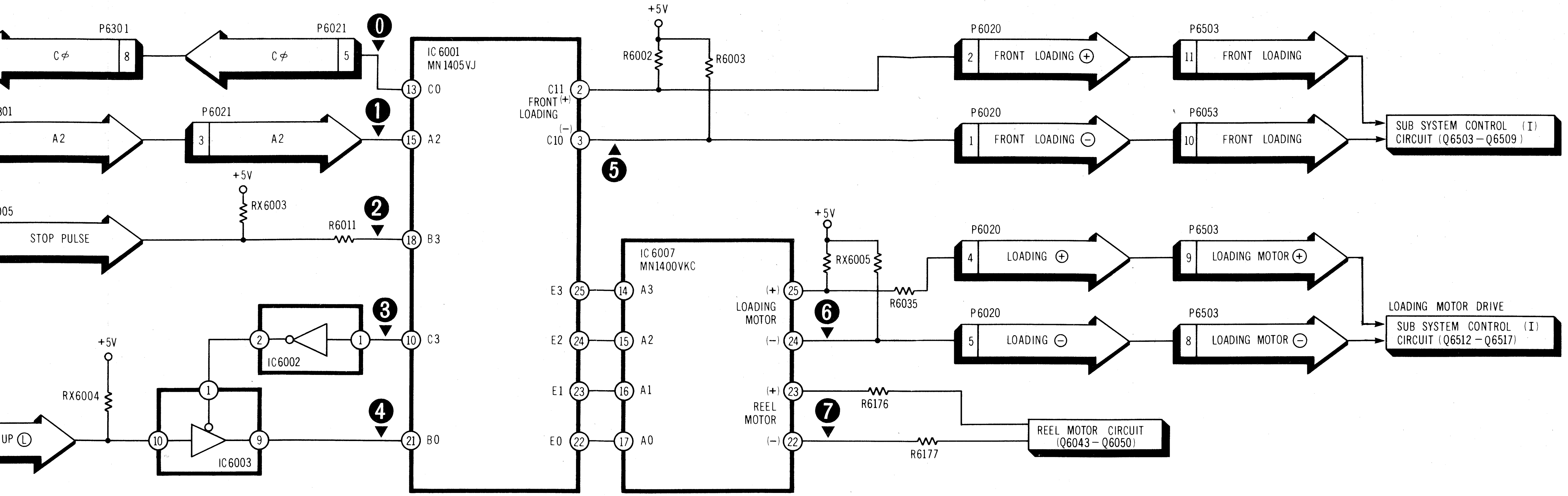
REEL STOP DETECTION (SYSTEM CONTROL) BLOCK DIAGRAM


REEL SENSOR
HALL IC
P6022
4
SUPPLY REEL SENSOR
+12V
R6229
R6218
D6097
IC6001
29
R6217
+5V
R6215
R6220
D6098
R6219
Q6073
P2303
CAP OFF
6
P6006
CAP. OFF Ⓗ
2
SERVO CIRCUIT
CAP. MOTOR OFF Ⓗ

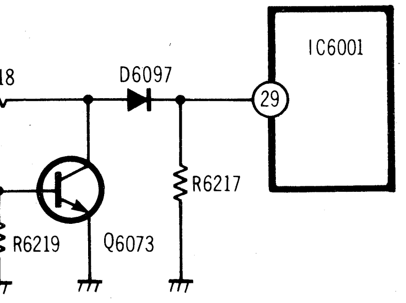
DD CYLINDER LOCK (SYSTEM CONTROL) BLOCK D


P2005
4
CYL LOCK
P6019
8
CYL LOCK
+5V
R6109
D6048
P6029
2 CAP/CYL LO
C6006
Q2011
R2042
8
IC2001
AUTO STOP
AUTO ST
SERVO CIRCUIT
SYSTEM CONTROL CIRCUIT

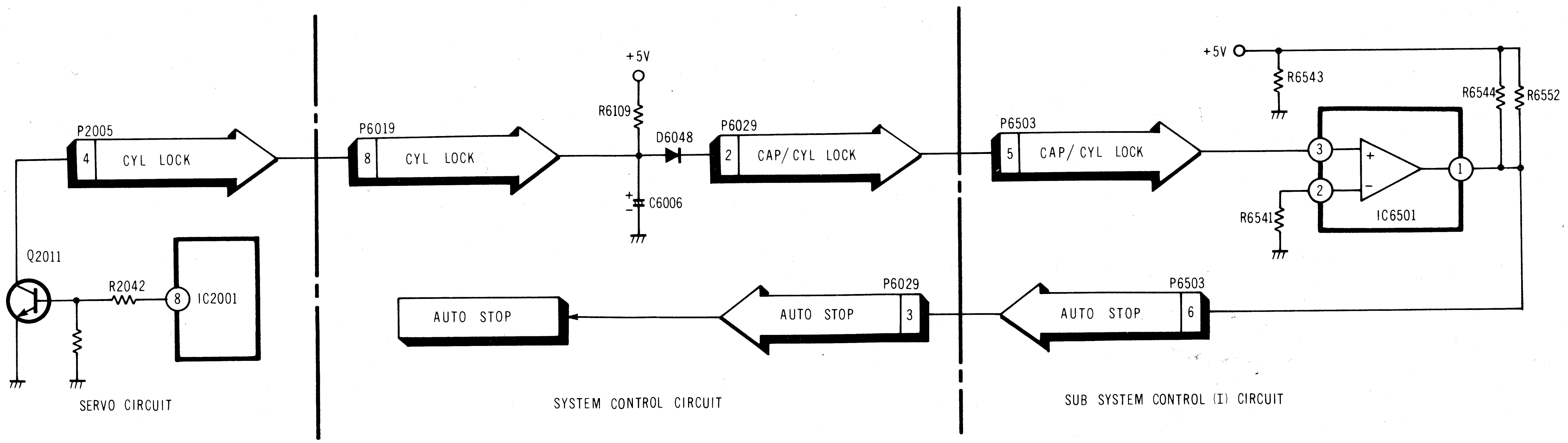
E (SYSTEM CONTROL) BLOCK DIAGRAM


P6301
C⌀
8
P6021
C⌀
5
0
IC 6001
MN 1405VJ
13 C0
01
A2
P6021
3
A2
1
15 A2
+5V
RX6003
05
STOP PULSE
R6011
2
18 B3
3
2
1
IC6002
10 C3
+5V
RX6004
UP Ⓛ
1
10
9
IC6003
4
21 B0
+5V
R6002
R6003
C11 2
FRONT (+)
LOADING
(−)
C10 3
5
E3 25
E2 24
E1 23
E0 22
IC 6007
MN1400VKC
14 A3
15 A2
16 A1
17 A0
(+) 25
LOADING
MOTOR
(−) 24
6
(+) 23
REEL
MOTOR
(−) 22
7
+5V
RX6005
R6035
R6176
R6177
REEL MOTOR CIRCUIT
(Q6043 − Q6050)
P6020
2 FRONT LOADING ⊕
P6020
1 FRONT LOADING ⊖
P6020
4 LOADING ⊕
P6020
5 LOADING ⊖
P6503
11 FRONT LOADING
P6053
10 FRONT LOADING
P6503
9 LOADING MOTOR ⊕
P6503
8 LOADING MOTOR ⊖
SUB SYSTEM CONTROL (I)
CIRCUIT (Q6503 − Q6509)
LOADING MOTOR DRIVE
SUB SYSTEM CONTROL (I)
CIRCUIT (Q6512 − Q6517)

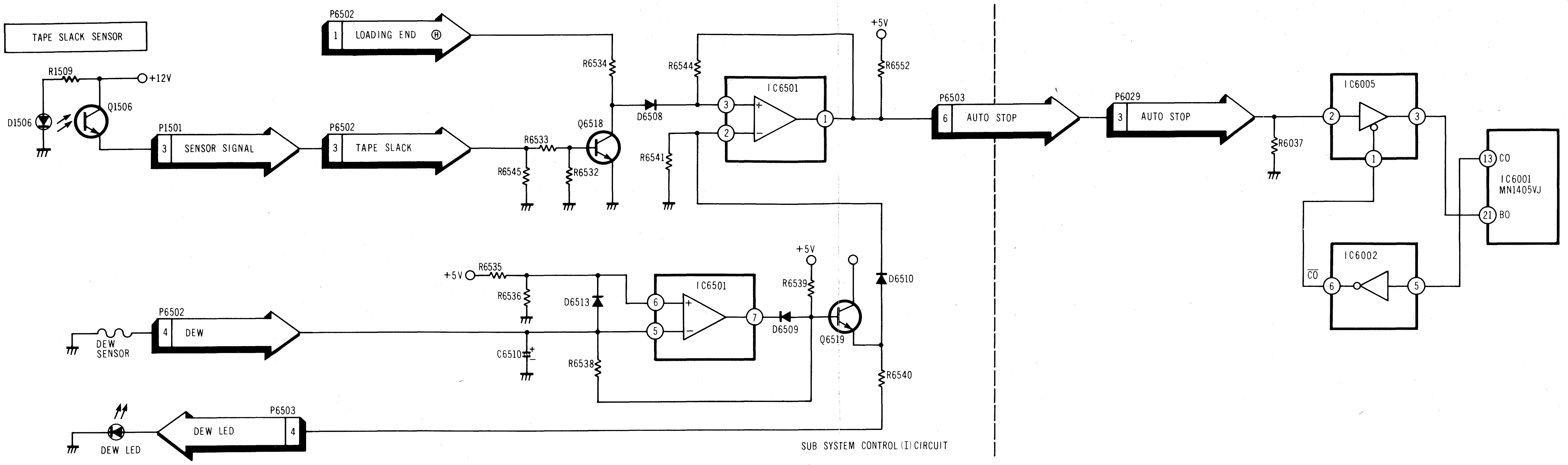
L) BLOCK DIAGRAM


18
D6097
IC6001
29
R6217
R6219
Q6073

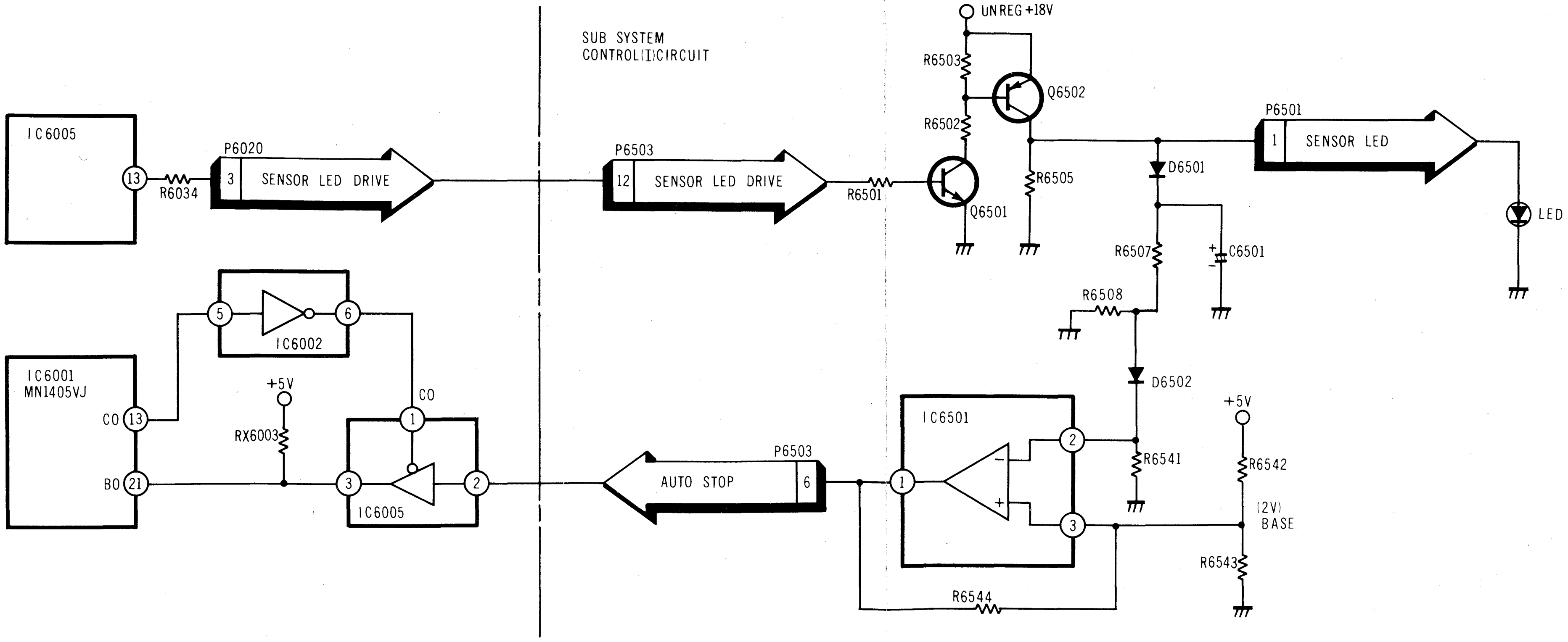
DD CYLINDER LOCK (SYSTEM CONTROL) BLOCK DIAGRAM


P2005
4 CYL LOCK
Q2011
R2042
8 IC2001
SERVO CIRCUIT
P6019
8 CYL LOCK
+5V
R6109
D6048
C6006
P6029
2 CAP/CYL LOCK
AUTO STOP
P6029
AUTO STOP 3
SYSTEM CONTROL CIRCUIT
+5V
R6543
R6544
R6552
P6503
5 CAP/CYL LOCK
3
2
1
IC6501
R6541
P6503
AUTO STOP 6
SUB SYSTEM CONTROL (I) CIRCUIT

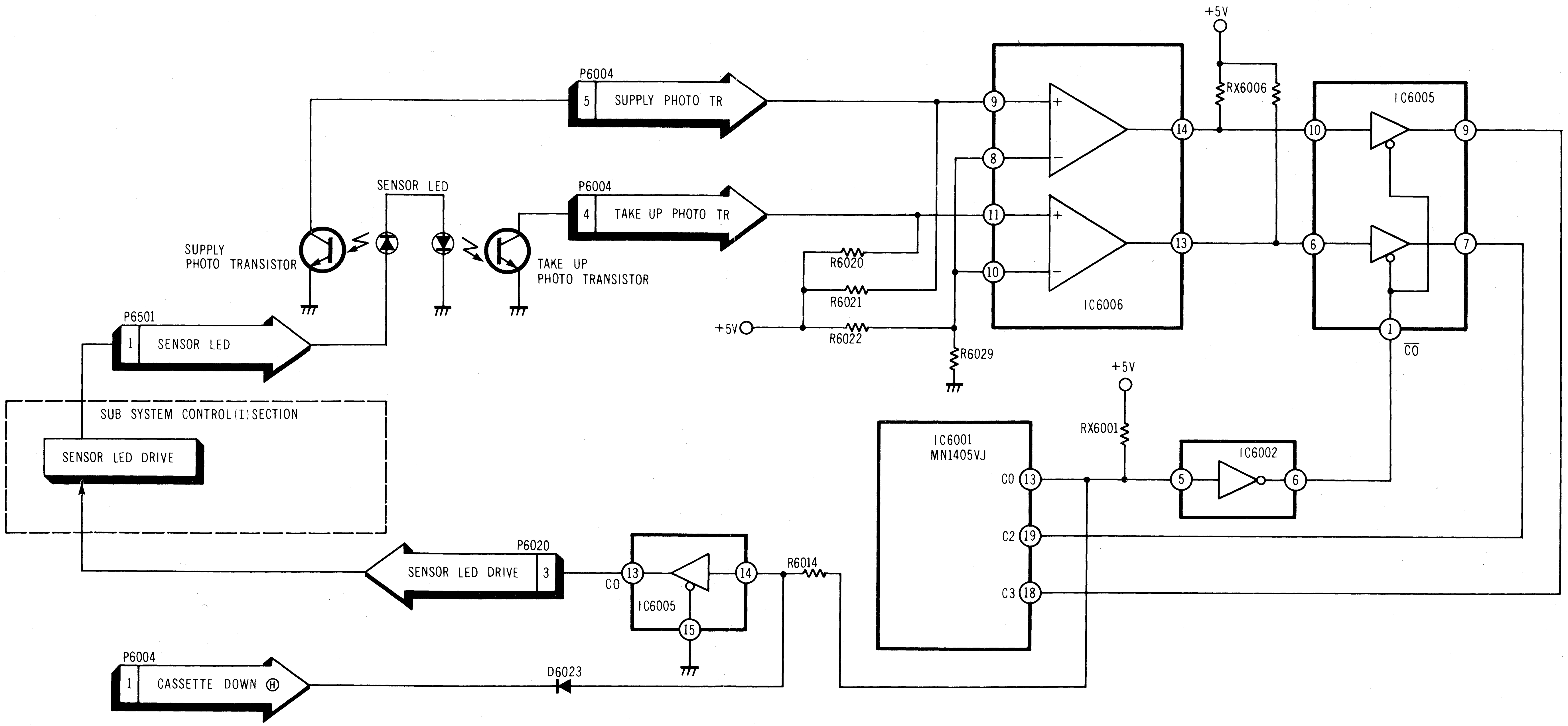
TAPE SLACK DETECTION & DEW SENSOR (SYSTEM CONTROL) BLOCK DIAGRAM


TAPE SLACK SENSOR
R1509
+12V
Q1506
D1506
P1501
3
SENSOR SIGNAL
P6502
1
LOADING END Ⓗ
P6502
3
TAPE SLACK
R6534
R6533
Q6518
R6545
R6532
R6544
IC6501
3
2
1
D6508
R6541
+5V
R6552
P6503
6
AUTO STOP
P6029
3
AUTO STOP
R6037
IC6005
2
3
1
IC6001
MN1405VJ
13 CO
21 BO
IC6002
CO
6
5
+5V
R6535
R6536
D6513
IC6501
6
5
7
+5V
R6539
D6510
D6509
Q6519
C6510
R6538
R6540
P6502
4
DEW
DEW SENSOR
DEW LED
P6503
4
DEW LED
SUB SYSTEM CONTROL (I) CIRCUIT

SENSOR MONITOR MODE (SYSTEM CONTROL) BLOCK DIAGRAM

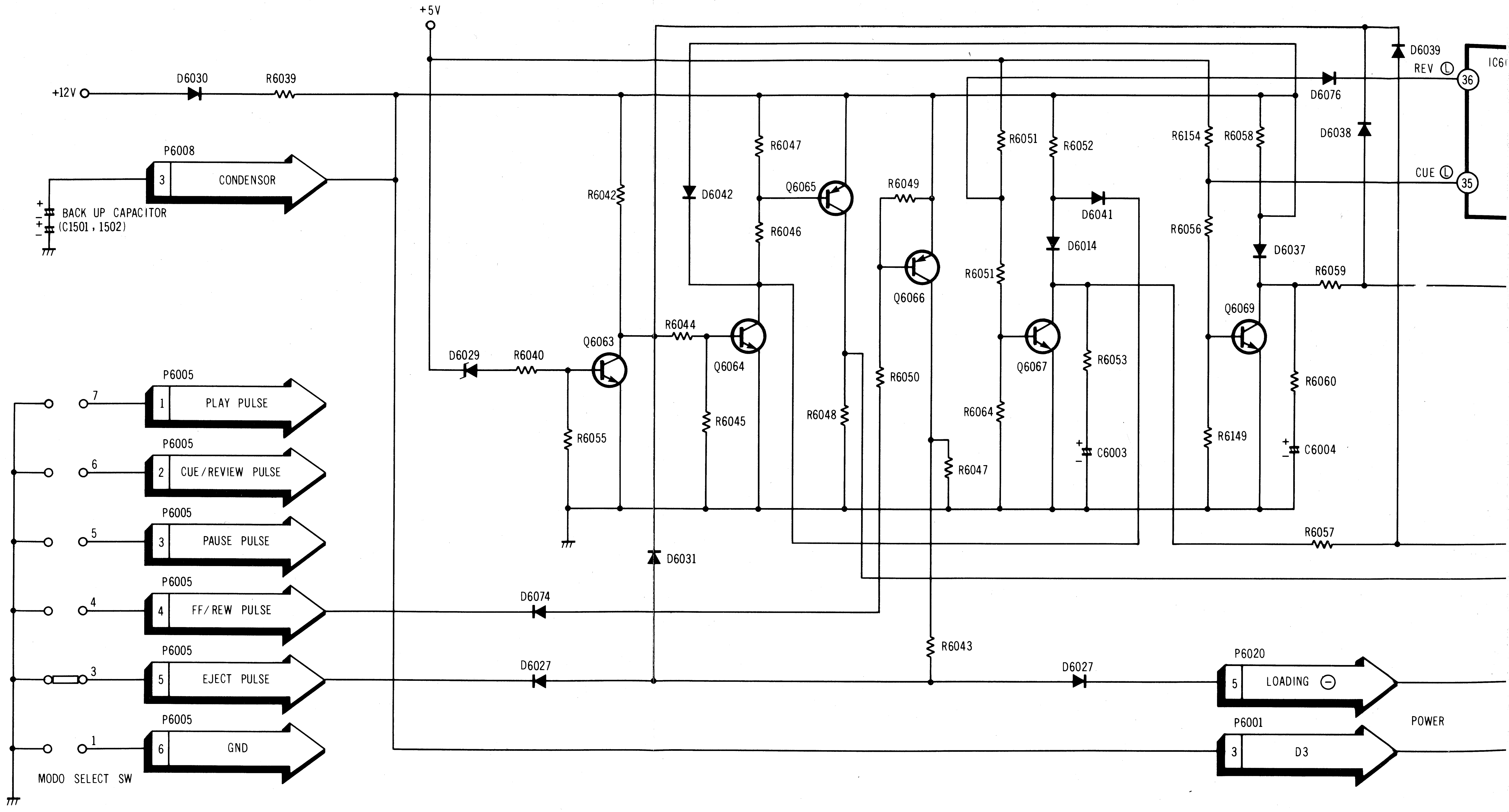

SUB SYSTEM CONTROL(I)CIRCUIT
UNREG +18V
R6503
Q6502
R6502
P6501
1
SENSOR LED
IC6005
13
R6034
P6020
3
SENSOR LED DRIVE
P6503
12
SENSOR LED DRIVE
R6501
Q6501
R6505
D6501
LED
R6507
C6501
R6508
5
6
IC6002
IC6001
MN1405VJ
CO 13
BO 21
+5V
RX6003
CO
1
3
2
IC6005
D6502
IC6501
2
1
3
P6503
AUTO STOP
6
R6541
+5V
R6542
(2V)
BASE
R6543
R6544

TAPE END DETECTION (SYSTEM CONTROL) BLOCK DIAGRAM



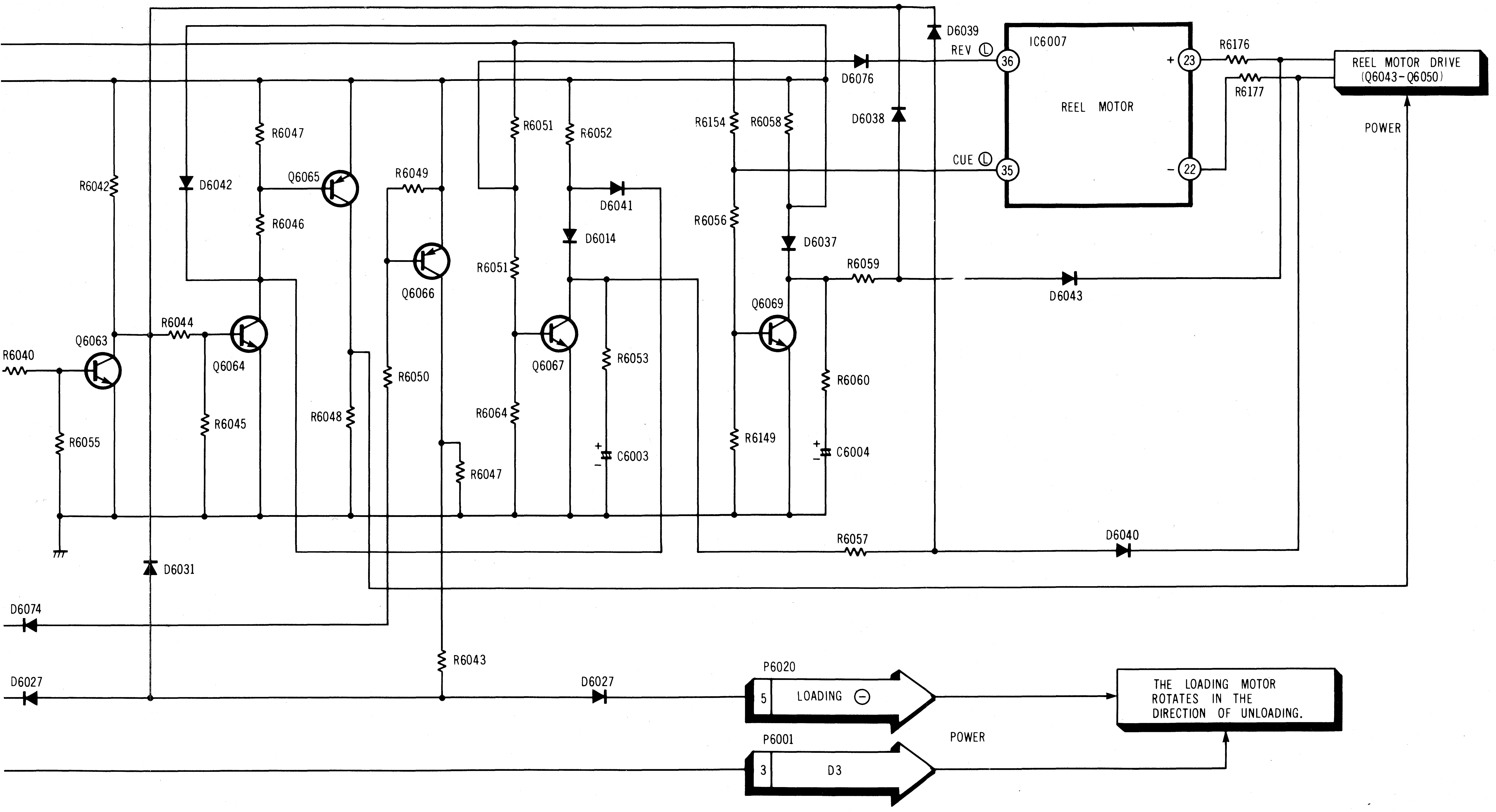
+5V
RX6006
IC6005
P6004
5
SUPPLY PHOTO TR
9
8
14
10
9
SENSOR LED
P6004
4
TAKE UP PHOTO TR
11
13
6
7
SUPPLY
PHOTO TRANSISTOR
TAKE UP
PHOTO TRANSISTOR
R6020
R6021
R6022
10
IC6006
1
CO
+5V
R6029
P6501
1
SENSOR LED
+5V
RX6001
IC6001
MN1405VJ
CO 13
IC6002
5
6
C2 19
C3 18
SUB SYSTEM CONTROL(I)SECTION
SENSOR LED DRIVE
P6020
SENSOR LED DRIVE
3
CO
13
14
IC6005
15
R6014
P6004
1
CASSETTE DOWN Ⓗ
D6023

POWER INTERRUPT (SYSTEM CONTROL) BLOCK DIAGRAM

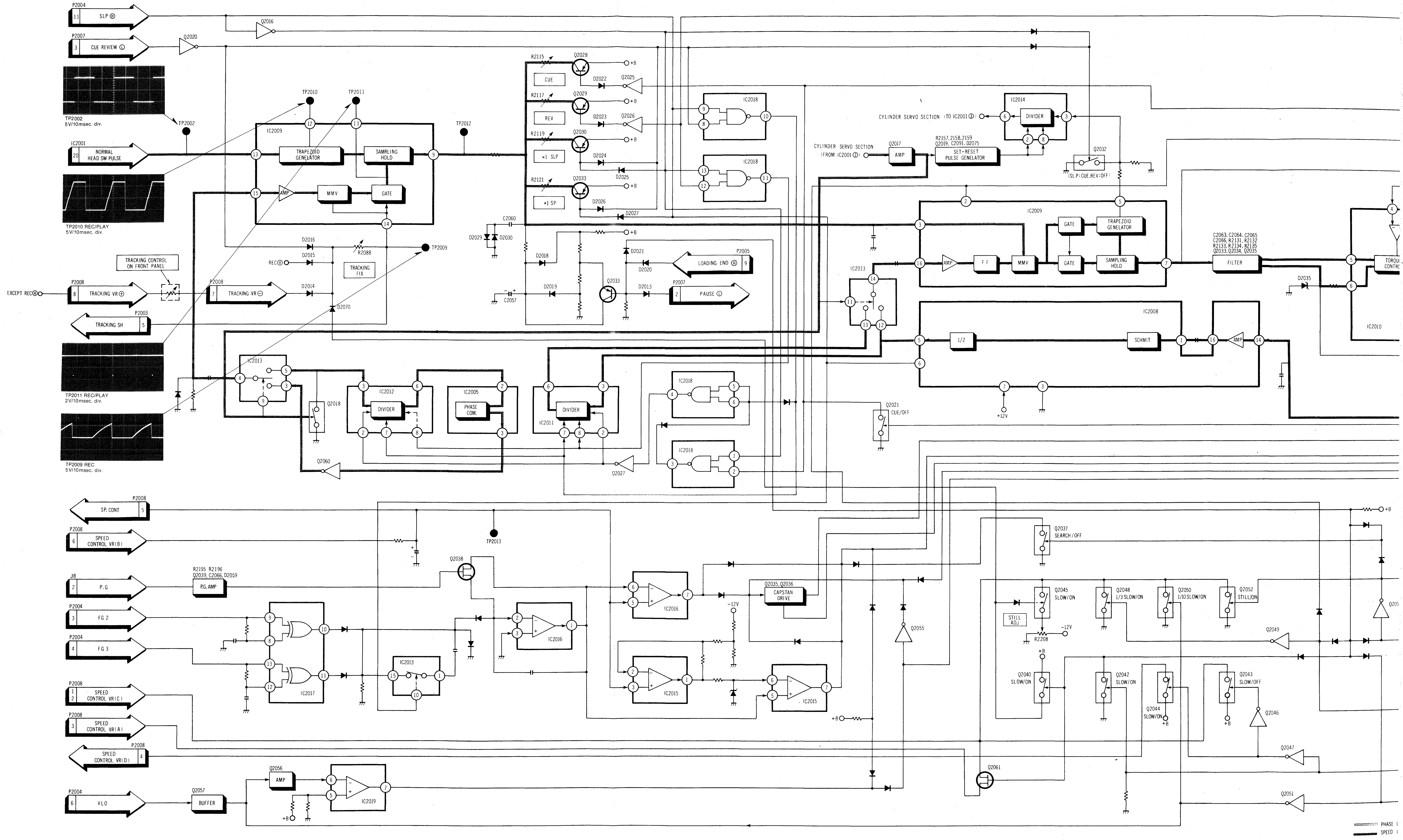


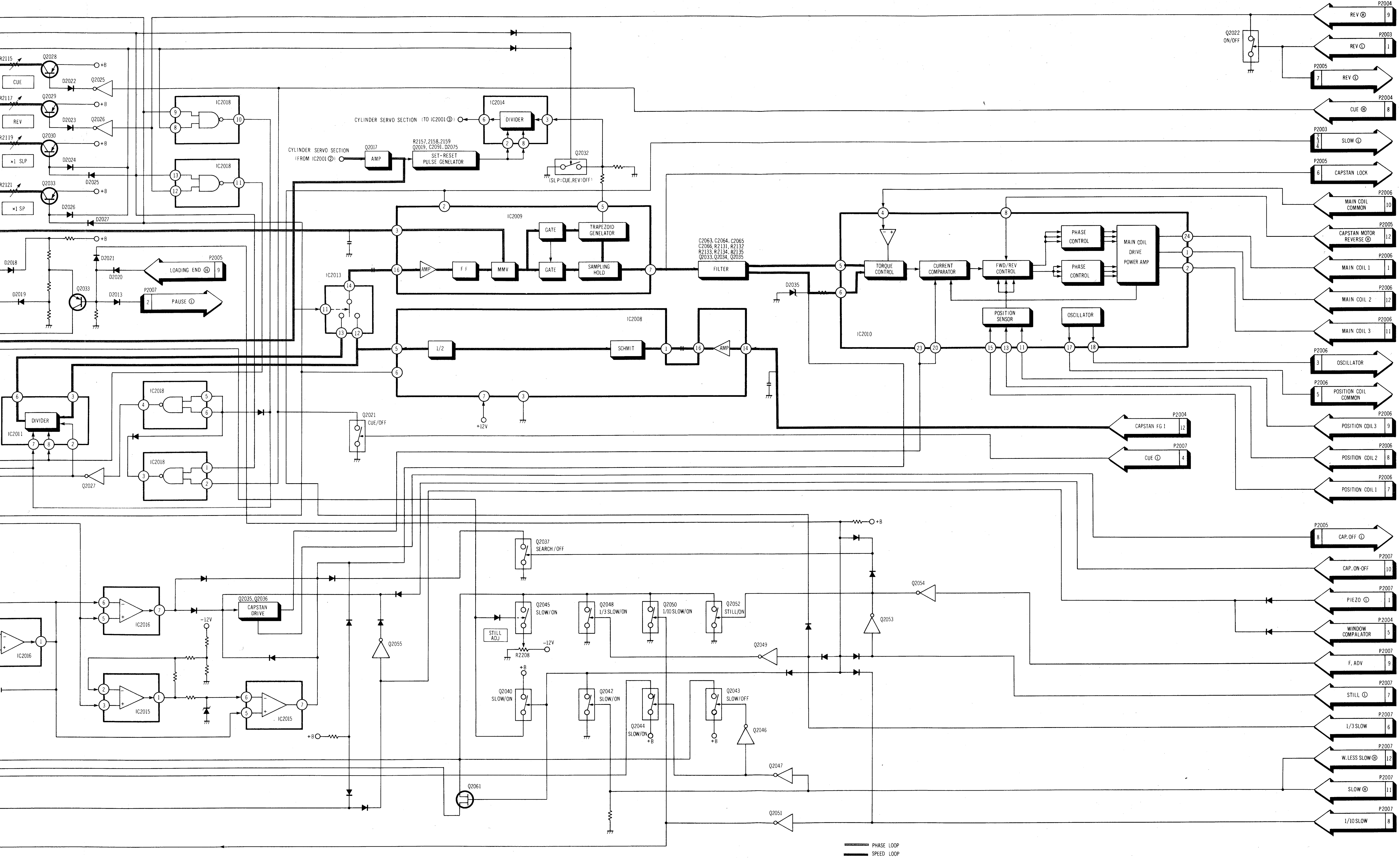
+5V
+12V
D6030
R6039
P6008
3
CONDENSOR
BACK UP CAPACITOR
(C1501, 1502)
R6042
D6042
R6047
R6046
Q6065
R6049
Q6066
R6051
R6052
D6041
D6014
R6154
R6058
R6056
D6037
D6039
REV Ⓛ
36
IC6
D6076
D6038
CUE Ⓛ
35
R6059
Q6069
Q6063
R6044
Q6064
D6029
R6040
R6055
R6045
R6048
R6050
R6047
R6051
Q6067
R6064
R6053
C6003
R6060
R6149
C6004
R6057
D6031
P6005
1
PLAY PULSE
7
P6005
2
CUE/REVIEW PULSE
6
P6005
3
PAUSE PULSE
5
P6005
4
FF/REW PULSE
4
D6074
P6005
5
EJECT PULSE
3
D6027
R6043
D6027
P6020
5
LOADING ⊖
P6005
6
GND
1
MODO SELECT SW
P6001
3
D3
POWER

OL) BLOCK DIAGRAM

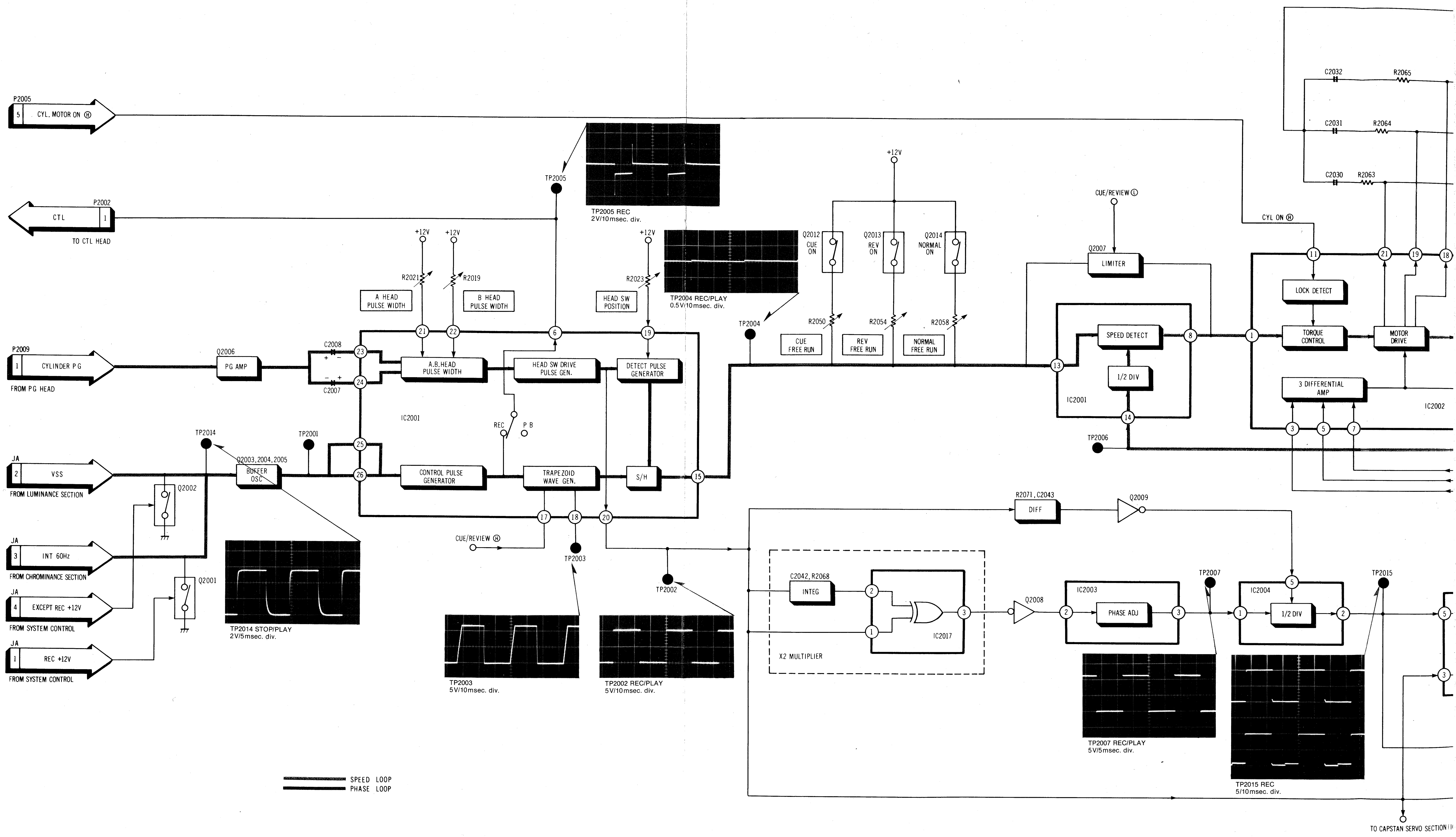

D6039
REV Ⓛ
36
IC6007
+
23
R6176
REEL MOTOR DRIVE
(Q6043-Q6050)
D6076
R6177
REEL MOTOR
D6038
POWER
R6047
R6051
R6052
R6154
R6058
CUE Ⓛ
35
-
22
R6042
D6042
Q6065
R6049
D6041
R6046
R6056
D6014
D6037
R6051
Q6066
R6059
D6043
Q6069
R6044
Q6063
R6040
Q6064
Q6067
R6053
R6050
R6060
R6048
R6045
R6064
R6055
R6149
C6003
C6004
R6047
R6057
D6040
D6031
D6074
R6043
P6020
D6027
D6027
5
LOADING ⊖
THE LOADING MOTOR ROTATES IN THE DIRECTION OF UNLOADING.
POWER
P6001
3
D3

CAPSTAN SERVO BLOCK DIAGRAM

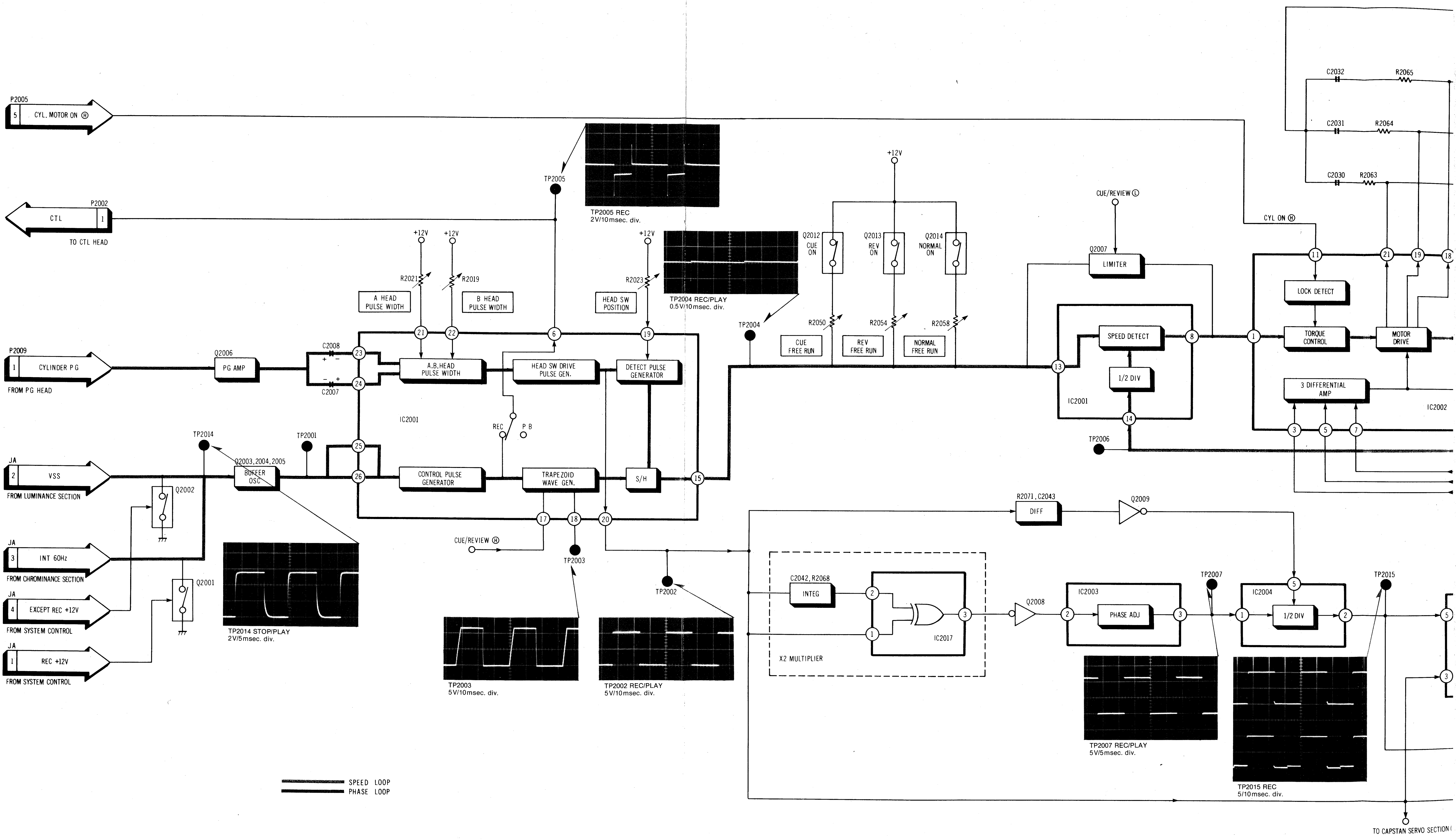

P2004
11 SLP Ⓗ
P2007
3 CUE REVIEW Ⓛ
Q2016
Q2020
TP2002
5V/10msec. div.
TP2002
TP2010
TP2011
TP2012
IC2001
20 NORMAL HEAD SW PULSE
IC2009
TRAPEZOID GENERATOR
SAMPLING HOLD
AMP
MMV
GATE
TP2010 REC/PLAY
5V/10msec. div.
TP2009
D2016
D2015
REC Ⓗ
R2088
TRACKING FIX
TRACKING CONTROL ON FRONT PANEL
EXCEPT REC Ⓗ
P2008
8 TRACKING VR ⊕
P2008
7 TRACKING VR ⊖
D2014
D2070
P2003
TRACKING SH 5
TP2011 REC/PLAY
2V/10msec. div.
TP2009 REC
5V/10msec. div.
R2115
Q2028
CUE
D2022
Q2025
R2117
Q2029
REV
D2023
Q2026
R2119
Q2030
×1 SLP
D2024
D2025
R2121
Q2033
×1 SP
D2026
D2027
+B
C2060
D2029
D2030
D2018
D2021
D2020
P2005
LOADING END Ⓗ 9
D2019
Q2033
D2013
P2007
2 PAUSE Ⓛ
C2057
IC2018
IC2013
Q2018
IC2012
DIVIDER
IC2005
PHASE COM.
IC2011
DIVIDER
Q2060
Q2027
CYLINDER SERVO SECTION (TO IC2001 ③)
CYLINDER SERVO SECTION (FROM IC2001 ②)
Q2017
AMP
R2157, 2158, 2159
Q2019, C2091, D2075
SET-RESET PULSE GENERATOR
IC2014
DIVIDER
Q2032
(SLP: CUE. REV: OFF)
IC2009
GATE
TRAPEZOID GENERATOR
AMP
FF
MMV
GATE
SAMPLING HOLD
C2063, C2064, C2065
C2066, R2131, R2132
R2133, R2134, R2135
Q2033, Q2034, Q2035
FILTER
D2035
TORQU
CONTRC
IC2010
IC2013
IC2008
1/2
SCHMIT
AMP
+12V
Q2021
CUE/OFF
P2008
SP. CONT 5
P2008
6 SPEED CONTROL VR(B)
TP2013
JB
2 P.G
R2195 R2196
Q2039, C2066, D2059
P.G. AMP
Q2038
P2004
3 FG 2
P2004
4 FG 3
IC2017
IC2013
IC2016
IC2016
IC2015
IC2015
-12V
Q2035, Q2036
CAPSTAN DRIVE
Q2055
P2008
1 2 SPEED CONTROL VR(C)
P2008
3 SPEED CONTROL VR(A)
P2008
SPEED CONTROL VR(D) 4
+B
Q2037
SEARCH/OFF
Q2045
SLOW/ON
Q2048
1/3 SLOW/ON
Q2050
1/10 SLOW/ON
Q2052
STILL/ON
STILL ADJ
R2208
-12V
Q2049
Q205
Q2040
SLOW/ON
Q2042
SLOW/ON
Q2044
SLOW/ON
Q2043
SLOW/OFF
Q2046
Q2047
P2004
6 VLO
Q2056
AMP
IC2019
Q2057
BUFFER
Q2061
Q2051
PHASE L
SPEED L

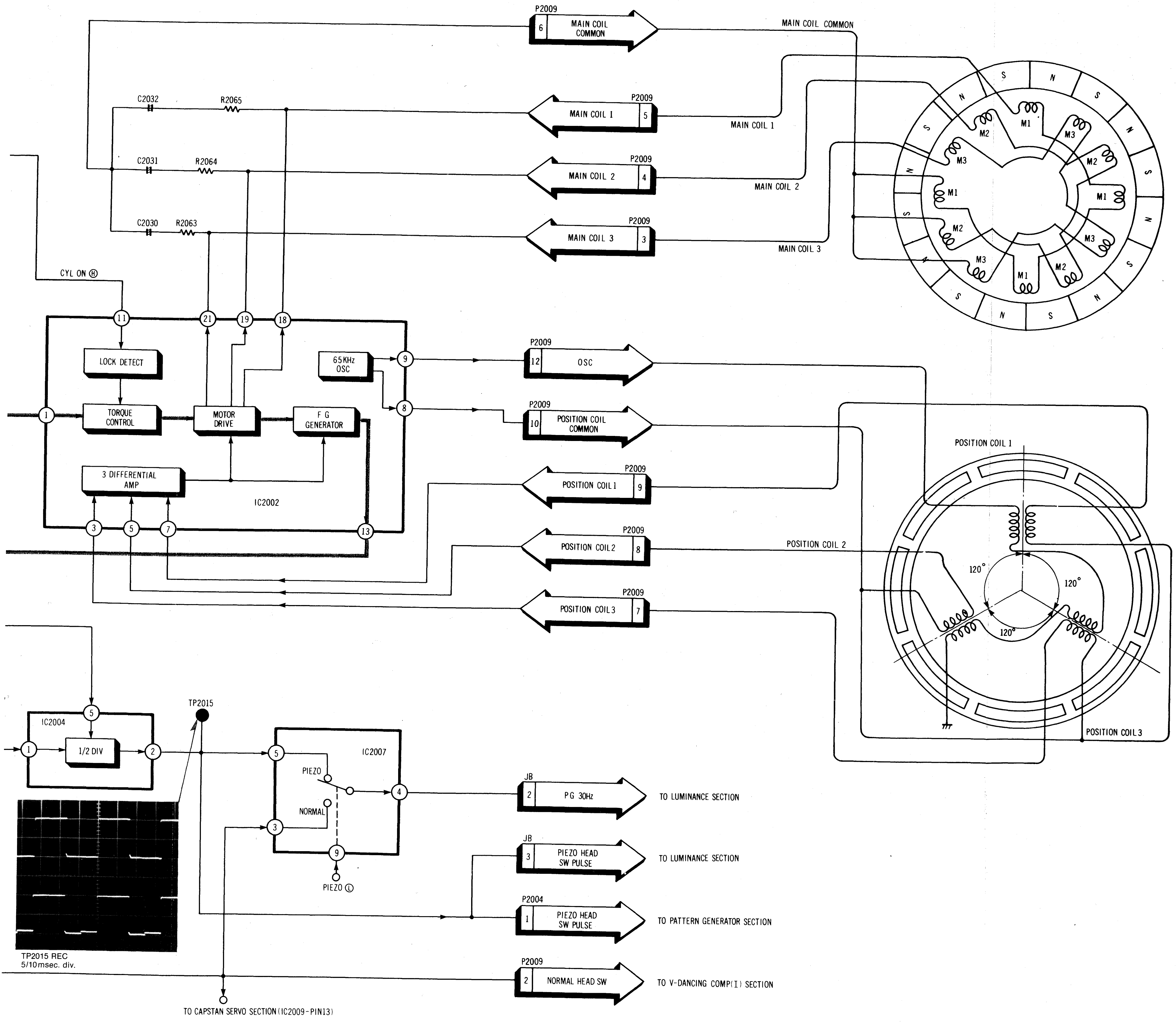

P2004
REV Ⓗ
9
Q2022
ON/OFF
P2003
REV Ⓛ
1
P2005
7
REV Ⓛ
P2004
CUE Ⓗ
8
P2003
2
3
4
SLOW Ⓛ
P2005
6
CAPSTAN LOCK
P2006
MAIN COIL COMMON
10
P2005
CAPSTAN MOTOR REVERSE Ⓗ
12
P2006
MAIN COIL 1
1
P2006
MAIN COIL 2
12
P2006
MAIN COIL 3
11
P2006
3
OSCILLATOR
P2006
5
POSITION COIL COMMON
P2006
POSITION COIL3
9
P2006
POSITION COIL 2
8
P2006
POSITION COIL 1
7
P2004
CAPSTAN FG I
12
P2007
CUE Ⓛ
4
P2005
8
CAP. OFF Ⓛ
P2007
CAP. ON-OFF
10
P2007
PIEZO Ⓛ
1
P2004
WINDOW COMPALATOR
5
P2007
F. ADV
9
P2007
STILL Ⓛ
7
P2007
1/3 SLOW
6
P2007
W. LESS SLOW Ⓗ
12
P2007
SLOW Ⓗ
11
P2007
1/10 SLOW
8
R2115
Q2028
+B
CUE
D2022
Q2025
R2117
Q2029
REV
D2023
Q2026
R2119
Q2030
×1 SLP
D2024
D2025
R2121
Q2033
×1 SP
D2026
D2027
IC2018
9
8
10
IC2018
13
12
11
IC2014
DIVIDER
6
3
2
8
CYLINDER SERVO SECTION (TO IC2001 ③)
CYLINDER SERVO SECTION (FROM IC2001 ②)
Q2017
AMP
R2157, 2158, 2159
Q2019, C2091, D2075
SET-RESET PULSE GENERATOR
Q2032
(SLP:CUE, REV:OFF)
+B
D2018
D2021
D2020
P2005
LOADING END Ⓗ
9
D2019
Q2033
D2013
P2007
2
PAUSE Ⓛ
IC2009
2
5
3
GATE
TRAPEZOID GENERATOR
16
AMP
F F
MMV
GATE
SAMPLING HOLD
7
IC2013
14
11
13
12
C2063, C2064, C2065
C2066, R2131, R2132
R2133, R2134, R2135
Q2033, Q2034, Q2035
FILTER
D2035
IC2008
5
1/2
SCHMIT
1
16
AMP
14
6
7
3
+12V
IC2010
4
8
TORQUE CONTROL
CURRENT COMPARATOR
FWD/REV CONTROL
PHASE CONTROL
PHASE CONTROL
MAIN COIL DRIVE POWER AMP
24
1
2
5
6
POSITION SENSOR
OSCILLATOR
23
20
15
13
11
17
18
IC2011
DIVIDER
6
3
7
8
2
IC2018
4
5
6
IC2018
3
1
2
Q2027
Q2021
CUE/OFF
+B
Q2037
SEARCH/OFF
IC2016
6
5
7
1
Q2035, Q2036
CAPSTAN DRIVE
-12V
IC2016
IC2015
2
3
1
6
5
7
IC2015
Q2055
+B
Q2045
SLOW/ON
STILL ADJ
R2208
-12V
Q2048
1/3 SLOW/ON
Q2050
1/10 SLOW/ON
Q2052
STILL/ON
Q2054
Q2053
Q2049
+B
Q2040
SLOW/ON
Q2042
SLOW/ON
Q2044
SLOW/ON
+B
Q2043
SLOW/OFF
+B
Q2046
Q2047
Q2061
Q2051
PHASE LOOP
SPEED LOOP

CYLINDER SERVO BLOCK DIAGRAM

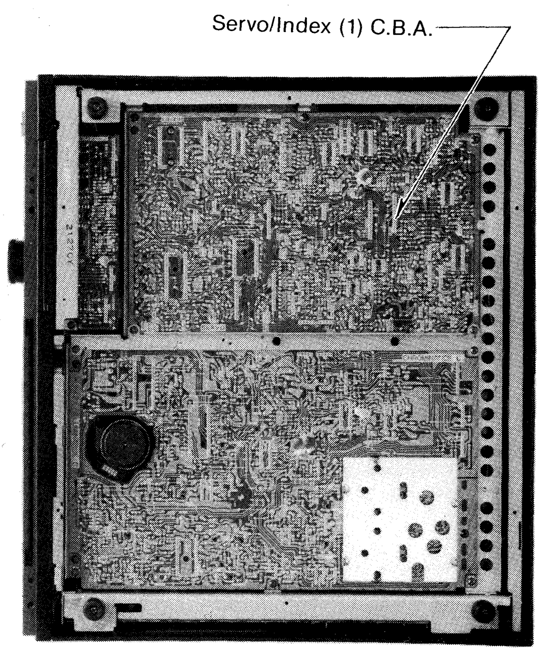

P2005
5 CYL. MOTOR ON Ⓗ
P2002
CTL 1
TO CTL HEAD
P2009
1 CYLINDER P G
FROM PG HEAD
Q2006
PG AMP
C2008
C2007
JA
2 VSS
FROM LUMINANCE SECTION
JA
3 INT 60Hz
FROM CHROMINANCE SECTION
JA
4 EXCEPT REC +12V
FROM SYSTEM CONTROL
JA
1 REC +12V
FROM SYSTEM CONTROL
Q2002
Q2001
TP2014
Q2003, 2004, 2005
BUFFER OSC
TP2001
TP2014 STOP/PLAY
2V/5msec. div.
TP2005
TP2005 REC
2V/10msec. div.
+12V
R2021
R2019
A HEAD PULSE WIDTH
B HEAD PULSE WIDTH
A.B.HEAD PULSE WIDTH
HEAD SW DRIVE PULSE GEN.
HEAD SW POSITION
R2023
DETECT PULSE GENERATOR
IC2001
REC
P B
CONTROL PULSE GENERATOR
TRAPEZOID WAVE GEN.
S/H
CUE/REVIEW Ⓗ
TP2003
TP2003
5V/10msec. div.
TP2002
TP2002 REC/PLAY
5V/10msec. div.
TP2004 REC/PLAY
0.5V/10msec. div.
TP2004
Q2012 CUE ON
Q2013 REV ON
Q2014 NORMAL ON
R2050
R2054
R2058
CUE FREE RUN
REV FREE RUN
NORMAL FREE RUN
CUE/REVIEW Ⓛ
Q2007
LIMITER
SPEED DETECT
1/2 DIV
IC2001
TP2006
C2032
R2065
C2031
R2064
C2030
R2063
CYL ON Ⓗ
LOCK DETECT
TORQUE CONTROL
MOTOR DRIVE
3 DIFFERENTIAL AMP
IC2002
R2071, C2043
DIFF
Q2009
C2042, R2068
INTEG
IC2017
X2 MULTIPLIER
Q2008
IC2003
PHASE ADJ
TP2007
IC2004
1/2 DIV
TP2015
TP2007 REC/PLAY
5V/5msec. div.
TP2015 REC
5/10msec. div.
TO CAPSTAN SERVO SECTION
SPEED LOOP
PHASE LOOP

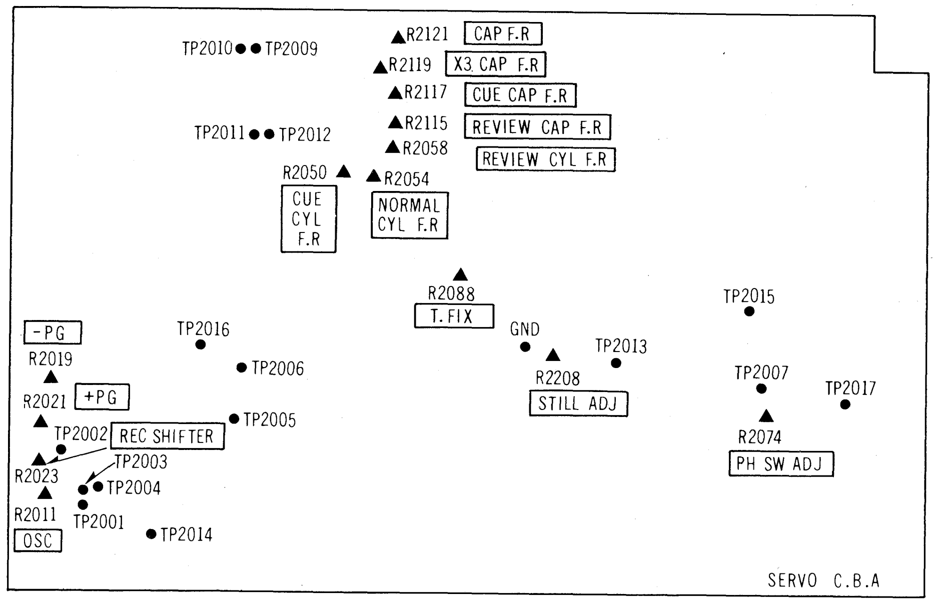
CYLINDER SERVO BLOCK DIAGRAM

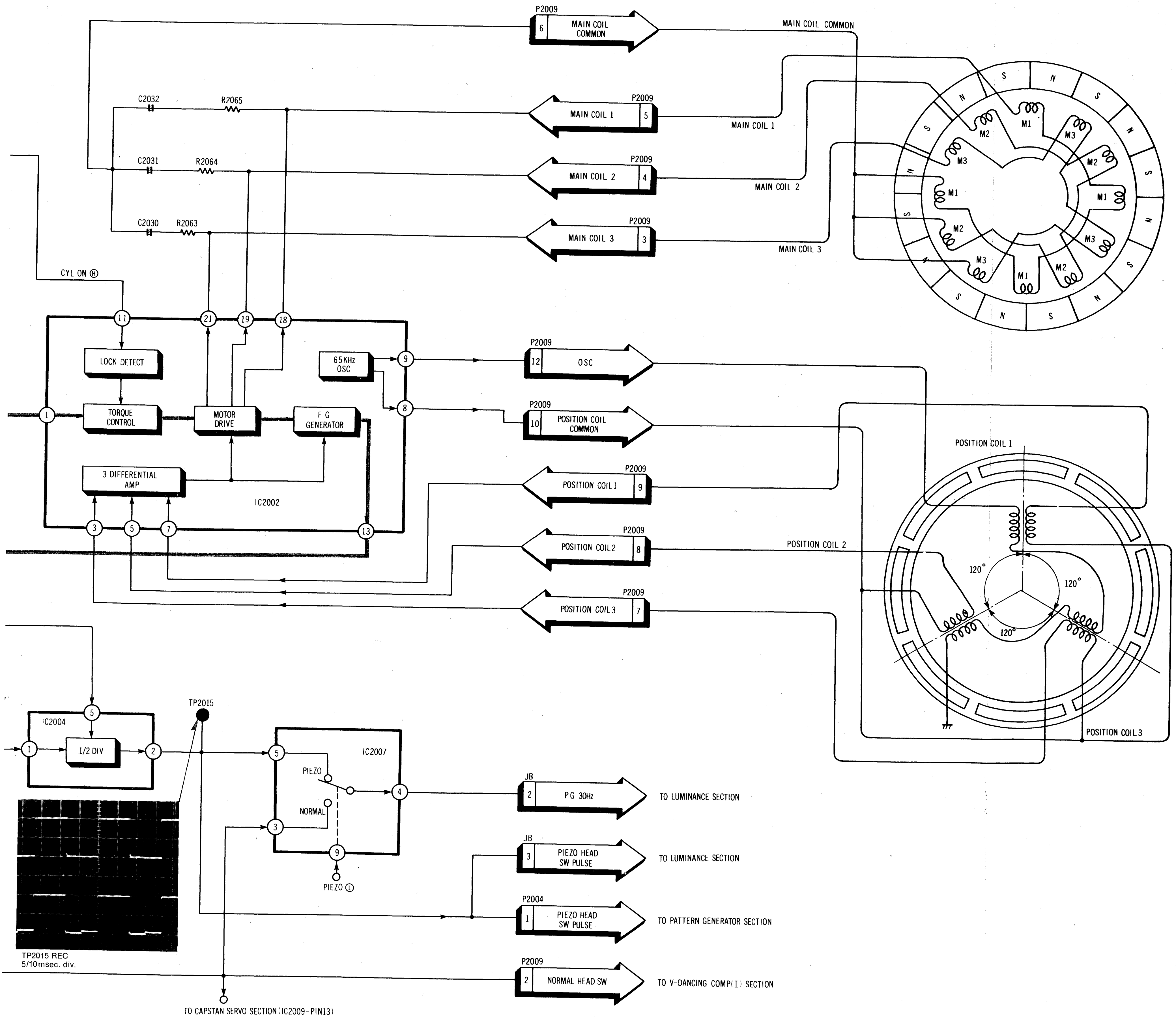

P2005
5 CYL. MOTOR ON Ⓗ
P2002
CTL 1
TO CTL HEAD
P2009
1 CYLINDER P G
FROM P G HEAD
JA
2 VSS
FROM LUMINANCE SECTION
JA
3 INT 60Hz
FROM CHROMINANCE SECTION
JA
4 EXCEPT REC +12V
FROM SYSTEM CONTROL
JA
1 REC +12V
FROM SYSTEM CONTROL
Q2006
PG AMP
C2008
C2007
Q2002
Q2001
TP2014
TP2001
Q2003, 2004, 2005
BUFFER OSC
TP2014 STOP/PLAY
2V/5msec. div.
TP2005
TP2005 REC
2V/10msec. div.
+12V
R2021
R2019
A HEAD PULSE WIDTH
B HEAD PULSE WIDTH
R2023
HEAD SW POSITION
TP2004 REC/PLAY
0.5V/10msec. div.
A.B.HEAD PULSE WIDTH
HEAD SW DRIVE PULSE GEN.
DETECT PULSE GENERATOR
IC2001
REC
P B
CONTROL PULSE GENERATOR
TRAPEZOID WAVE GEN.
S/H
CUE/REVIEW Ⓗ
TP2003
TP2003
5V/10msec. div.
TP2002
TP2002 REC/PLAY
5V/10msec. div.
TP2004
Q2012
CUE ON
Q2013
REV ON
Q2014
NORMAL ON
R2050
R2054
R2058
CUE FREE RUN
REV FREE RUN
NORMAL FREE RUN
CUE/REVIEW Ⓛ
Q2007
LIMITER
SPEED DETECT
1/2 DIV
IC2001
TP2006
R2071, C2043
DIFF
Q2009
C2042, R2068
INTEG
IC2017
X2 MULTIPLIER
Q2008
IC2003
PHASE ADJ
TP2007
TP2007 REC/PLAY
5V/5msec. div.
IC2004
1/2 DIV
TP2015
TP2015 REC
5/10msec. div.
C2032
R2065
C2031
R2064
C2030
R2063
CYL ON Ⓗ
LOCK DETECT
TORQUE CONTROL
MOTOR DRIVE
3 DIFFERENTIAL AMP
IC2002
TO CAPSTAN SERVO SECTION
SPEED LOOP
PHASE LOOP

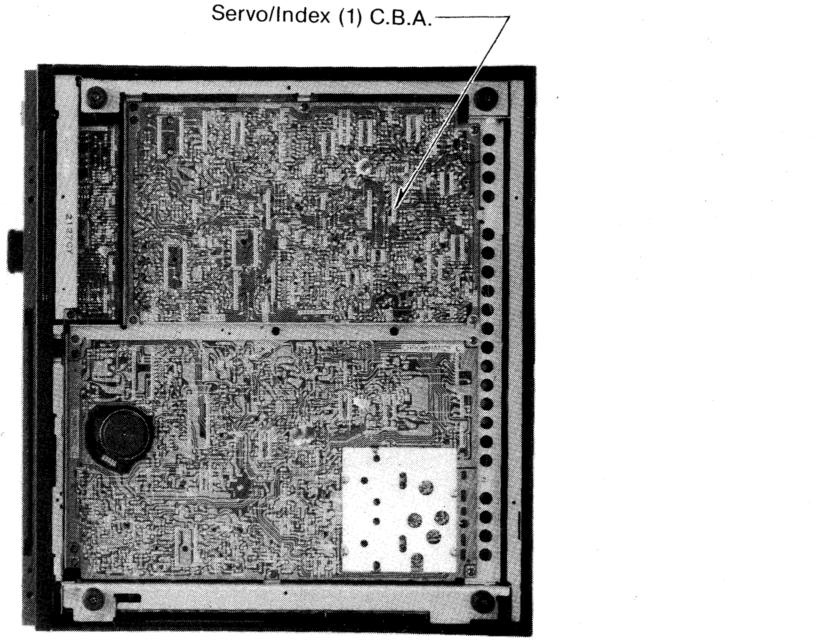

P2009
6 MAIN COIL COMMON
MAIN COIL COMMON
C2032
R2065
P2009
MAIN COIL 1 5
MAIN COIL 1
C2031
R2064
P2009
MAIN COIL 2 4
MAIN COIL 2
C2030
R2063
P2009
MAIN COIL 3 3
MAIN COIL 3
S
N
M1
M2
M3
CYL ON Ⓗ
11
21
19
18
LOCK DETECT
65KHz OSC
9
8
P2009
12 OSC
P2009
10 POSITION COIL COMMON
1
TORQUE CONTROL
MOTOR DRIVE
F G GENERATOR
3 DIFFERENTIAL AMP
IC2002
3
5
7
13
P2009
POSITION COIL 1 9
P2009
POSITION COIL 2 8
POSITION COIL 2
P2009
POSITION COIL 3 7
POSITION COIL 1
120°
POSITION COIL 3
5
IC2004
1
1/2 DIV
2
TP2015
5
IC2007
PIEZO
NORMAL
4
3
9
PIEZO Ⓛ
JB
2 PG 30Hz
TO LUMINANCE SECTION
JB
3 PIEZO HEAD SW PULSE
TO LUMINANCE SECTION
P2004
1 PIEZO HEAD SW PULSE
TO PATTERN GENERATOR SECTION
P2009
2 NORMAL HEAD SW
TO V-DANCING COMP(I) SECTION
TO CAPSTAN SERVO SECTION (IC2009-PIN13)
TP2015 REC
5/10msec. div.

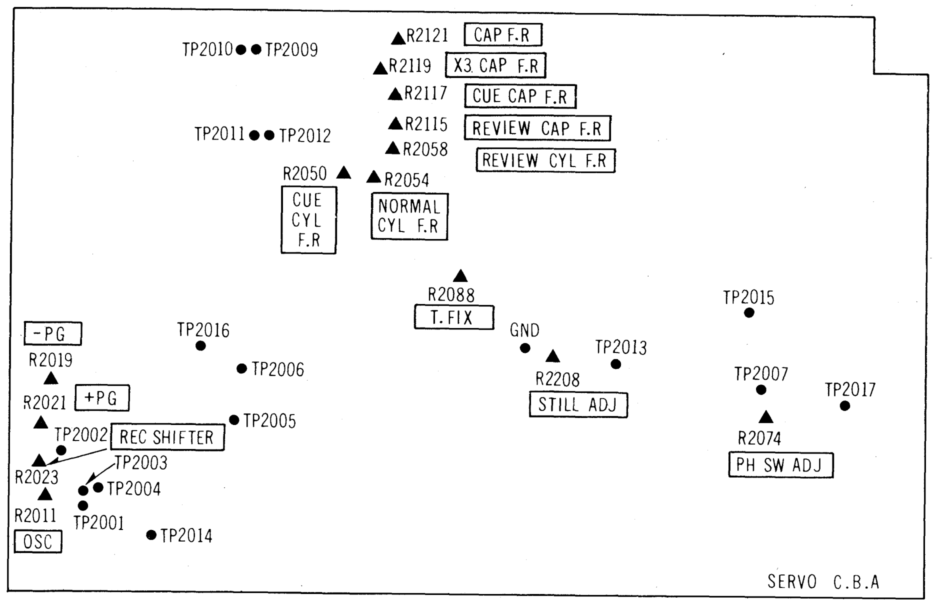
Servo/Index (1) C.B.A.



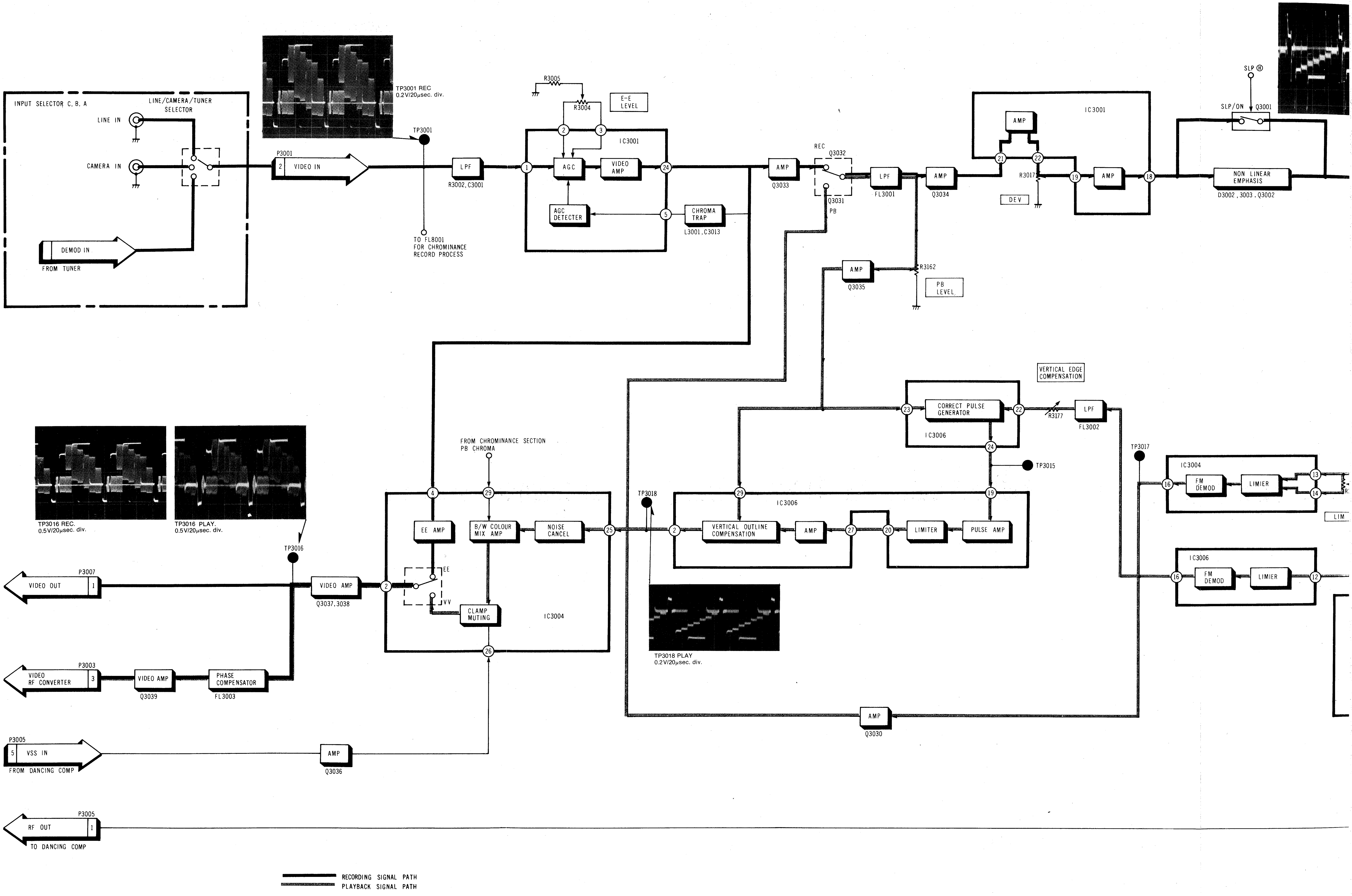

TP2010
TP2009
R2121 CAP F.R
R2119 X3 CAP F.R
R2117 CUE CAP F.R
R2115 REVIEW CAP F.R
R2058 REVIEW CYL F.R
TP2011
TP2012
R2050
CUE CYL F.R
R2054
NORMAL CYL F.R
R2088
T. FIX
-PG
R2019
R2021 +PG
TP2002 REC SHIFTER
TP2003
R2023
TP2004
R2011
TP2001
OSC
TP2016
TP2006
TP2005
TP2014
GND
TP2013
R2208
STILL ADJ
TP2015
TP2007
TP2017
R2074
PH SW ADJ
SERVO C.B.A


P2009
6 MAIN COIL COMMON
MAIN COIL COMMON
C2032
R2065
P2009
MAIN COIL 1 5
MAIN COIL 1
C2031
R2064
P2009
MAIN COIL 2 4
MAIN COIL 2
C2030
R2063
P2009
MAIN COIL 3 3
MAIN COIL 3
S N S N S N S N S N S N S N S N
M1 M2 M3
CYL ON Ⓗ
11 21 19 18
LOCK DETECT
65KHz OSC
9
8
1
TORQUE CONTROL
MOTOR DRIVE
F G GENERATOR
3 DIFFERENTIAL AMP
IC2002
3 5 7 13
P2009
12 OSC
P2009
10 POSITION COIL COMMON
P2009
POSITION COIL 1 9
P2009
POSITION COIL 2 8
POSITION COIL 2
P2009
POSITION COIL 3 7
POSITION COIL 1
120°
120°
120°
POSITION COIL 3
IC2004
5
1
1/2 DIV
2
TP2015
IC2007
5
PIEZO
NORMAL
4
3
9
PIEZO Ⓛ
JB
2 PG 30Hz
TO LUMINANCE SECTION
JB
3 PIEZO HEAD SW PULSE
TO LUMINANCE SECTION
P2004
1 PIEZO HEAD SW PULSE
TO PATTERN GENERATOR SECTION
P2009
2 NORMAL HEAD SW
TO V-DANCING COMP(I) SECTION
TO CAPSTAN SERVO SECTION (IC2009-PIN13)
TP2015 REC
5/10msec. div.

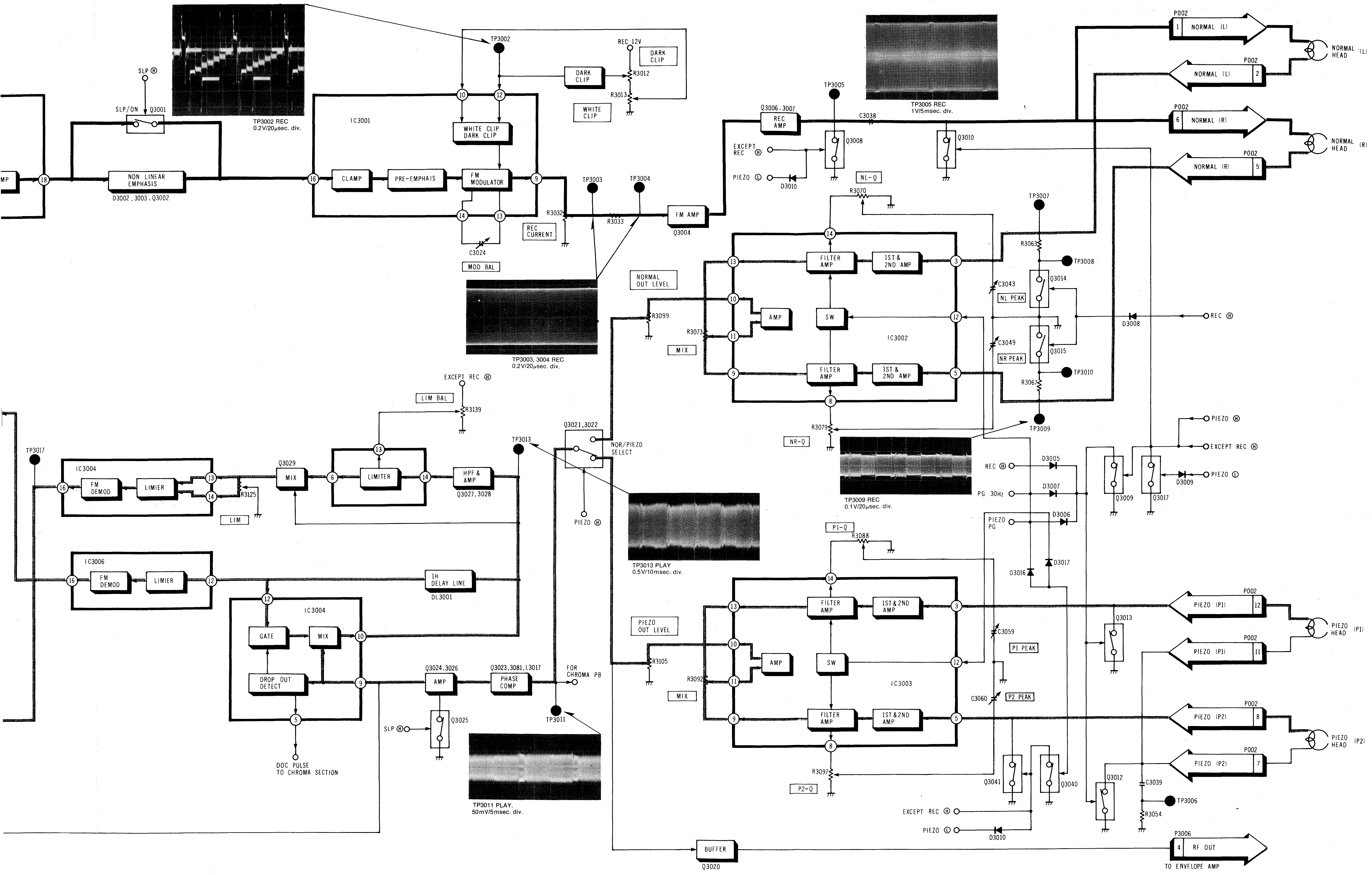

Servo/Index (1) C.B.A.


TP2010
TP2009
R2121 CAP F.R
R2119 X3 CAP F.R
R2117 CUE CAP F.R
R2115 REVIEW CAP F.R
R2058 REVIEW CYL F.R
TP2011
TP2012
R2050
R2054
CUE CYL F.R
NORMAL CYL F.R
R2088
T.FIX
TP2015
-PG
R2019
R2021
+PG
TP2016
TP2006
GND
TP2013
R2208
STILL ADJ
TP2007
TP2017
R2074
PH SW ADJ
TP2005
TP2002
REC SHIFTER
TP2003
R2023
TP2004
R2011
TP2001
OSC
TP2014
SERVO C.B.A

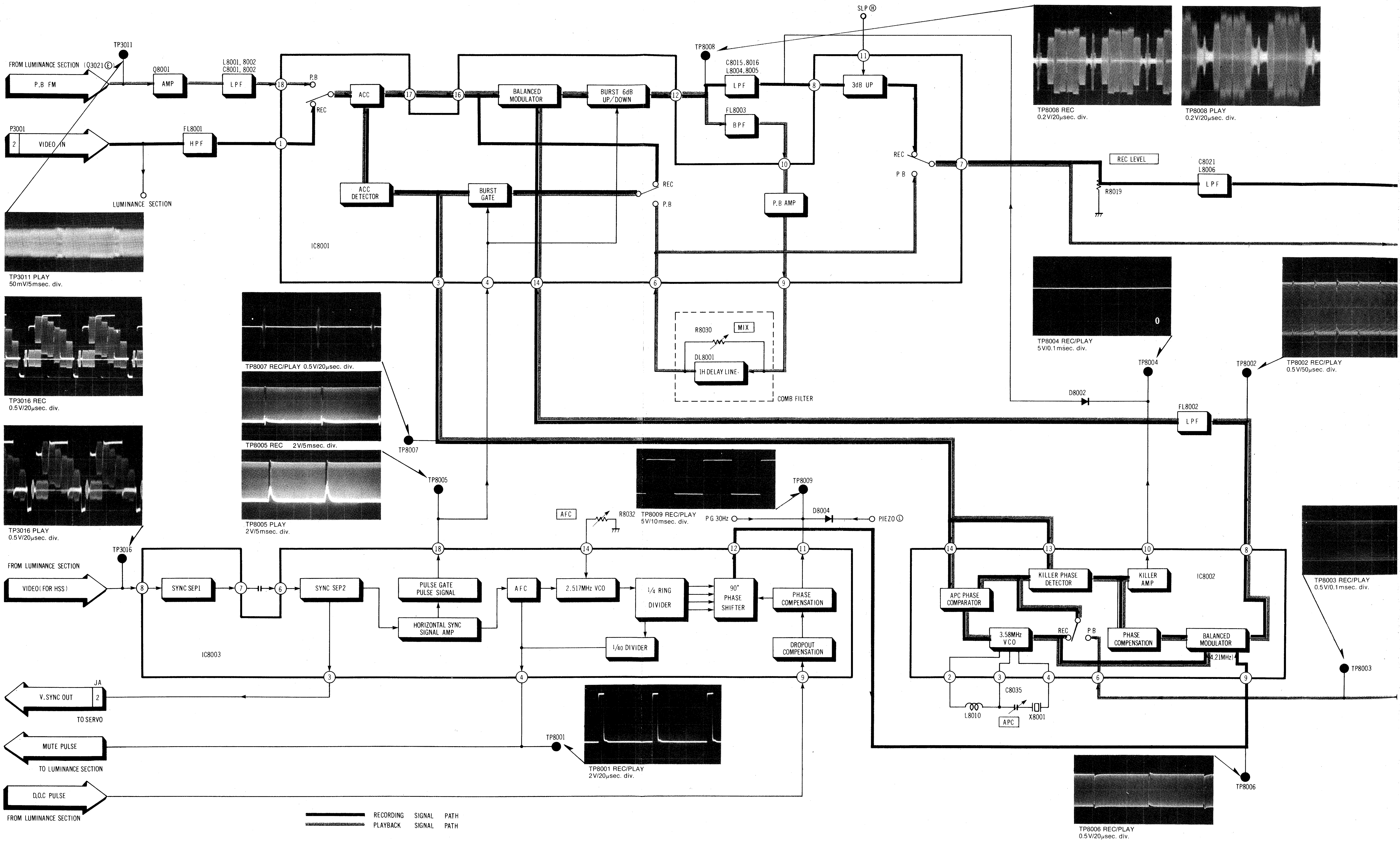
LUMINANCE PROCESS BLOCK DIAGRAM

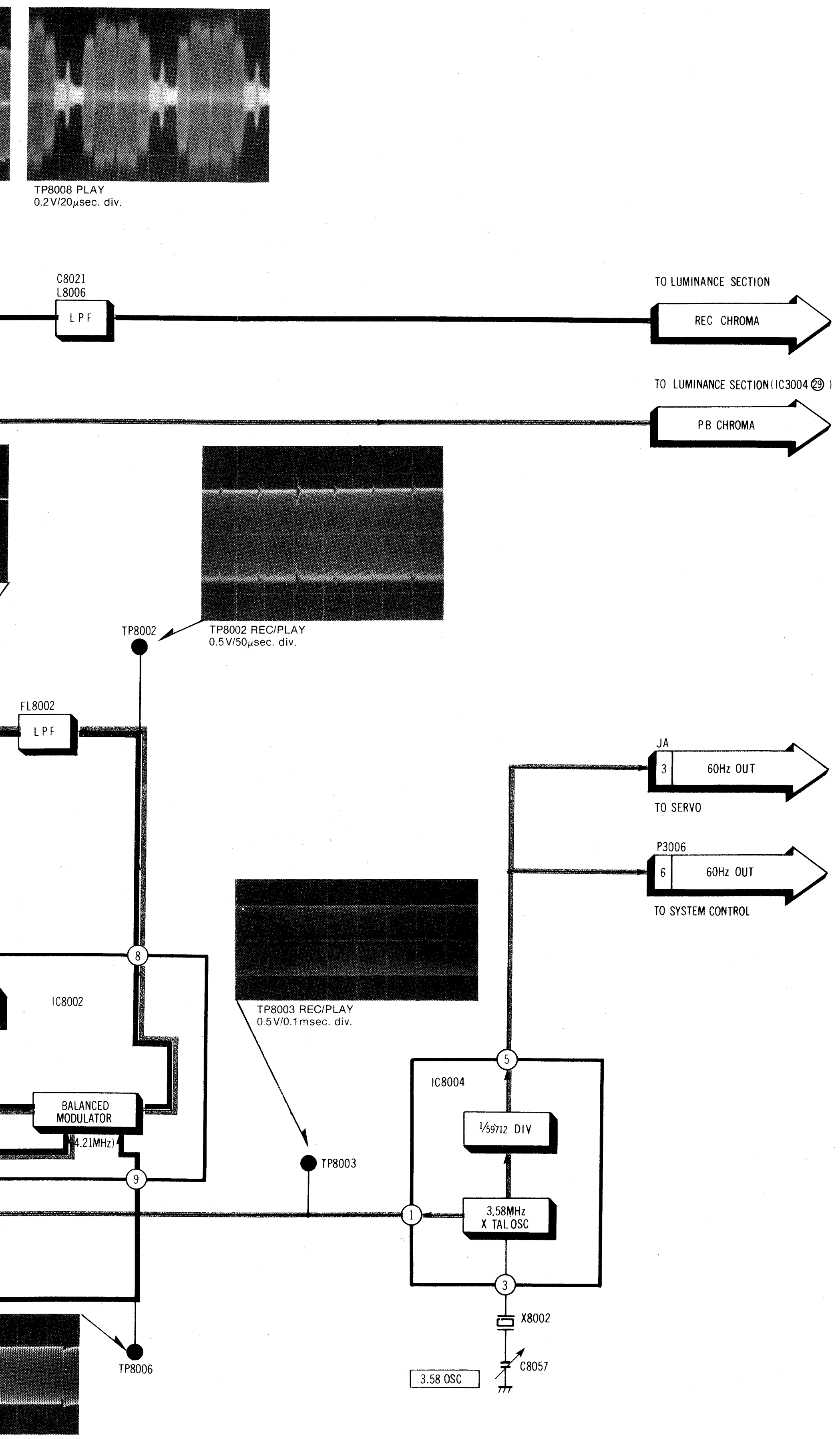


INPUT SELECTOR C, B, A
LINE/CAMERA/TUNER SELECTOR
LINE IN
CAMERA IN
DEMOD IN
FROM TUNER
TP3001 REC
0.2V/20μsec. div.
TP3001
P3001
2 VIDEO IN
TO FL8001 FOR CHROMINANCE RECORD PROCESS
LPF
R3002, C3001
R3005
R3004
E-E LEVEL
IC3001
AGC
VIDEO AMP
AGC DETECTER
CHROMA TRAP
L3001, C3013
REC
Q3032
AMP
Q3033
Q3031
PB
LPF
FL3001
AMP
Q3034
IC3001
AMP
R3017
DEV
AMP
SLP Ⓗ
SLP/ON
Q3001
NON LINEAR EMPHASIS
D3002, 3003, Q3002
AMP
Q3035
R3162
PB LEVEL
VERTICAL EDGE COMPENSATION
CORRECT PULSE GENERATOR
IC3006
R3177
LPF
FL3002
TP3015
TP3017
IC3004
FM DEMOD
LIMIER
LIM
IC3006
FM DEMOD
LIMIER
TP3016 REC.
0.5V/20μsec. div.
TP3016 PLAY.
0.5V/20μsec. div.
TP3016
FROM CHROMINANCE SECTION PB CHROMA
EE AMP
B/W COLOUR MIX AMP
NOISE CANCEL
EE
VV
CLAMP MUTING
IC3004
TP3018
IC3006
VERTICAL OUTLINE COMPENSATION
AMP
LIMITER
PULSE AMP
TP3018 PLAY
0.2V/20μsec. div.
P3007
VIDEO OUT
VIDEO AMP
Q3037, 3038
P3003
VIDEO RF CONVERTER
VIDEO AMP
Q3039
PHASE COMPENSATOR
FL3003
AMP
Q3030
P3005
5 VSS IN
FROM DANCING COMP
AMP
Q3036
P3005
RF OUT
TO DANCING COMP
RECORDING SIGNAL PATH
PLAYBACK SIGNAL PATH


SLP Ⓗ
SLP/ON
Q3001
MP
18
NON LINEAR EMPHASIS
D3002, 3003, Q3002
TP3002 REC
0.2V/20μsec. div.
TP3002
IC3001
10
12
WHITE CLIP DARK CLIP
16
CLAMP
PRE-EMPHAIS
FM MODULATOR
9
14
13
C3024
MOD BAL
DARK CLIP
REC 12V
R3012
R3013
DARK CLIP
WHITE CLIP
R3032
REC CURRENT
TP3003
TP3004
R3033
FM AMP
Q3004
TP3003, 3004 REC
0.2V/20μsec. div.
Q3006, 3007
REC AMP
EXCEPT REC Ⓗ
PIEZO Ⓛ
D3010
Q3008
TP3005
C3038
Q3010
TP3005 REC
1V/5msec. div.
NL-Q
R3070
NORMAL OUT LEVEL
R3099
R3073
MIX
13
10
11
9
14
3
12
5
8
AMP
FILTER AMP
1ST & 2ND AMP
SW
IC3002
TP3007
R3063
TP3008
C3043
NL PEAK
Q3014
C3049
NR PEAK
Q3015
TP3010
R3067
TP3009
D3008
REC Ⓗ
R3079
NR-Q
TP3009 REC
0.1V/20μsec. div.
P002
1 NORMAL (L)
NORMAL (L) 2
6 NORMAL (R)
NORMAL (R) 5
NORMAL HEAD (L)
NORMAL HEAD (R)
EXCEPT REC Ⓗ
LIM BAL
R3139
TP3017
IC3004
FM DEMOD
LIMIER
R3125
LIM
Q3029
MIX
6
LIMITER
HPF & AMP
Q3027, 3028
TP3013
Q3021, 3022
NOR/PIEZO SELECT
PIEZO Ⓗ
TP3013 PLAY
0.5V/10msec. div.
IC3006
FM DEMOD
LIMIER
16
12
1H DELAY LINE
DL3001
IC3004
GATE
MIX
DROP OUT DETECT
10
9
5
DOC PULSE TO CHROMA SECTION
Q3024, 3026
AMP
Q3023, 3081, L3017
PHASE COMP
FOR CHROMA PB
SLP Ⓗ
Q3025
TP3011
TP3011 PLAY.
50mV/5msec. div.
PIEZO Ⓗ
EXCEPT REC Ⓗ
PIEZO Ⓛ
REC Ⓗ
D3005
PG 30Hz
D3007
PIEZO PG
D3006
Q3009
Q3017
D3009
D3016
D3017
P1-Q
R3088
PIEZO OUT LEVEL
R3105
R3092
MIX
IC3003
C3059
P1 PEAK
C3060
P2 PEAK
R3097
P2-Q
Q3041
Q3040
Q3013
Q3012
C3039
R3054
TP3006
EXCEPT REC Ⓗ
PIEZO Ⓛ
D3010
PIEZO (P1) 12
PIEZO (P1) 11
PIEZO (P2) 8
PIEZO (P2) 7
PIEZO HEAD (P1)
PIEZO HEAD (P2)
BUFFER
Q3020
P3006
4 RF OUT
TO ENVELOPE AMP

CHROMINANCE PROCESS BLOCK DIAGRAM

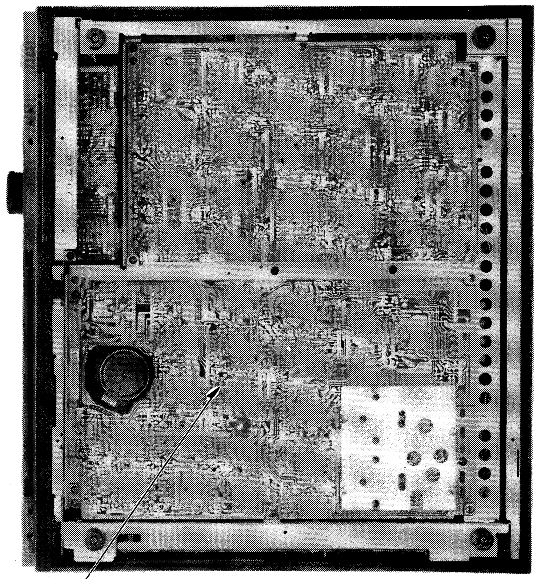

SLP Ⓗ
TP3011
FROM LUMINANCE SECTION (Q3021 Ⓔ)
P.B FM
Q8001
AMP
L8001, 8002
C8001, 8002
LPF
P.B
REC
ACC
BALANCED MODULATOR
BURST 6dB UP/DOWN
TP8008
C8015, 8016
L8004, 8005
LPF
FL8003
BPF
3dB UP
P3001
2 VIDEO IN
FL8001
HPF
LUMINANCE SECTION
ACC DETECTOR
BURST GATE
REC
P.B
P.B AMP
IC8001
REC
P B
REC LEVEL
R8019
C8021
L8006
LPF
TP8008 REC
0.2V/20μsec. div.
TP8008 PLAY
0.2V/20μsec. div.
TP3011 PLAY
50mV/5msec. div.
TP3016 REC
0.5V/20μsec. div.
TP3016 PLAY
0.5V/20μsec. div.
TP8007 REC/PLAY 0.5V/20μsec. div.
TP8005 REC 2V/5msec. div.
TP8005 PLAY
2V/5msec. div.
TP8007
TP8005
R8030
MIX
DL8001
1H DELAY LINE
COMB FILTER
TP8004 REC/PLAY
5V/0.1msec. div.
TP8004
TP8002
TP8002 REC/PLAY
0.5V/50μsec. div.
D8002
FL8002
LPF
AFC
R8032
TP8009 REC/PLAY
5V/10msec. div.
TP8009
D8004
PG 30Hz
PIEZO Ⓛ
TP3016
FROM LUMINANCE SECTION
VIDEO (FOR HSS)
SYNC SEP1
SYNC SEP2
PULSE GATE PULSE SIGNAL
HORIZONTAL SYNC SIGNAL AMP
AFC
2.517MHz VCO
1/4 RING DIVIDER
1/40 DIVIDER
90° PHASE SHIFTER
PHASE COMPENSATION
DROPOUT COMPENSATION
IC8003
JA
V.SYNC OUT
TO SERVO
MUTE PULSE
TO LUMINANCE SECTION
D.O.C PULSE
FROM LUMINANCE SECTION
TP8001
TP8001 REC/PLAY
2V/20μsec. div.
APC PHASE COMPARATOR
KILLER PHASE DETECTOR
KILLER AMP
IC8002
3.58MHz VCO
REC
P B
PHASE COMPENSATION
BALANCED MODULATOR
4.21MHz
C8035
L8010
APC
X8001
TP8003 REC/PLAY
0.5V/0.1msec. div.
TP8003
TP8006
TP8006 REC/PLAY
0.5V/20μsec. div.
RECORDING SIGNAL PATH
PLAYBACK SIGNAL PATH

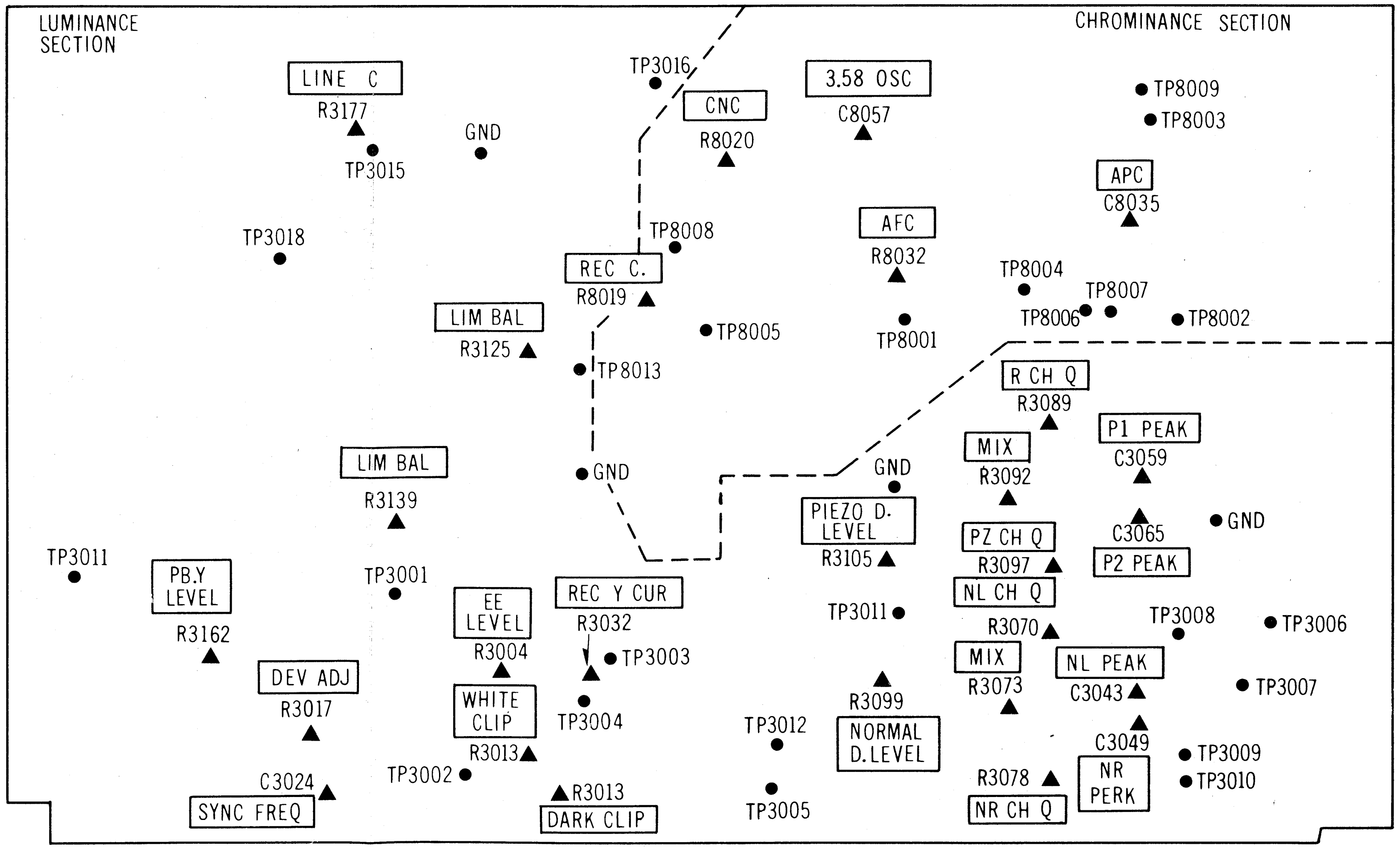

TP8008 PLAY
0.2V/20μsec. div.

TP8002 REC/PLAY
0.5V/50μsec. div.

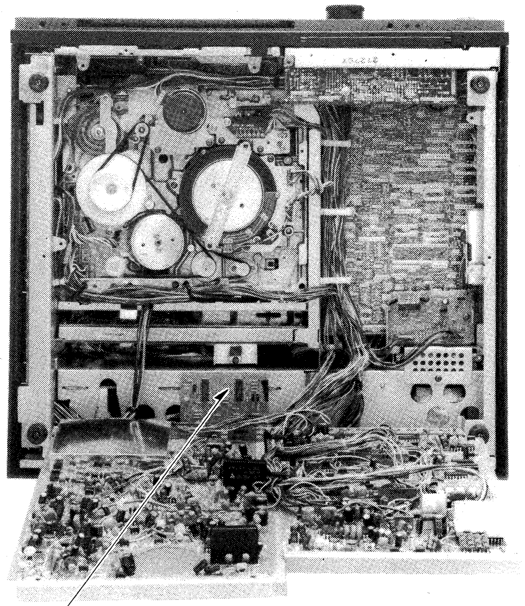
TP8003 REC/PLAY
0.5V/0.1msec. div.

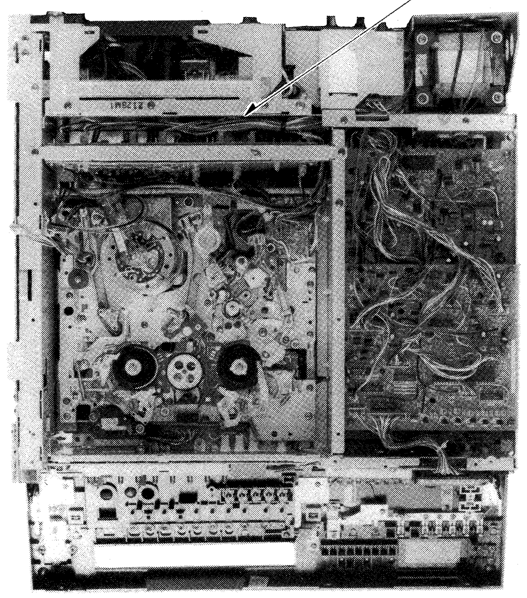
C8021
L8006
LPF
TO LUMINANCE SECTION
REC CHROMA
TO LUMINANCE SECTION(IC3004 ㉙)
PB CHROMA
TP8002
FL8002
LPF
JA
3
60Hz OUT
TO SERVO
P3006
6
60Hz OUT
TO SYSTEM CONTROL
8
IC8002
BALANCED
MODULATOR
(4.21MHz)
9
TP8003
IC8004
5
1/59712 DIV
3.58MHz
X TAL OSC
1
3
X8002
C8057
3.58 OSC
TP8006

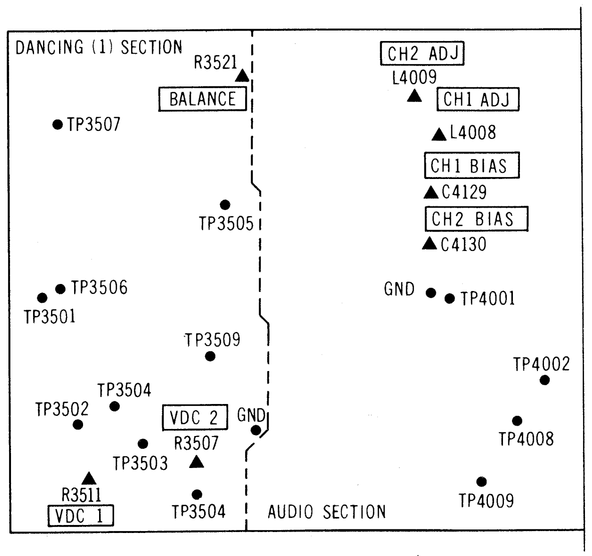

Luminance & Chrominance C.B.A.

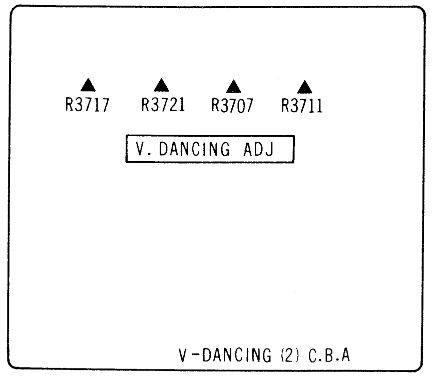

LUMINANCE
SECTION
CHROMINANCE SECTION
LINE C
R3177
TP3015
GND
TP3016
CNC
R8020
3.58 OSC
C8057
TP8009
TP8003
APC
C8035
TP3018
TP8008
AFC
R8032
REC C.
R8019
TP8004
TP8007
TP8006
TP8002
LIM BAL
R3125
TP8005
TP8001
TP8013
R CH Q
R3089
MIX
R3092
P1 PEAK
C3059
LIM BAL
R3139
GND
GND
PIEZO D.
LEVEL
R3105
PZ CH Q
R3097
C3065
P2 PEAK
GND
TP3011
PB.Y
LEVEL
R3162
TP3001
EE
LEVEL
R3004
REC Y CUR
R3032
TP3003
TP3011
NL CH Q
R3070
TP3008
TP3006
MIX
R3073
NL PEAK
C3043
TP3007
DEV ADJ
R3017
WHITE
CLIP
R3013
TP3004
TP3012
R3099
NORMAL
D.LEVEL
C3049
TP3009
TP3010
C3024
SYNC FREQ
TP3002
R3013
DARK CLIP
TP3005
R3078
NR CH Q
NR
PERK

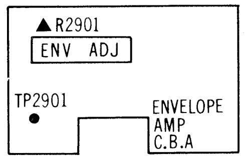
V-DANCING COMPENSATION & ENVELOPE AMP & SEARCH BLOCK DIAGRA

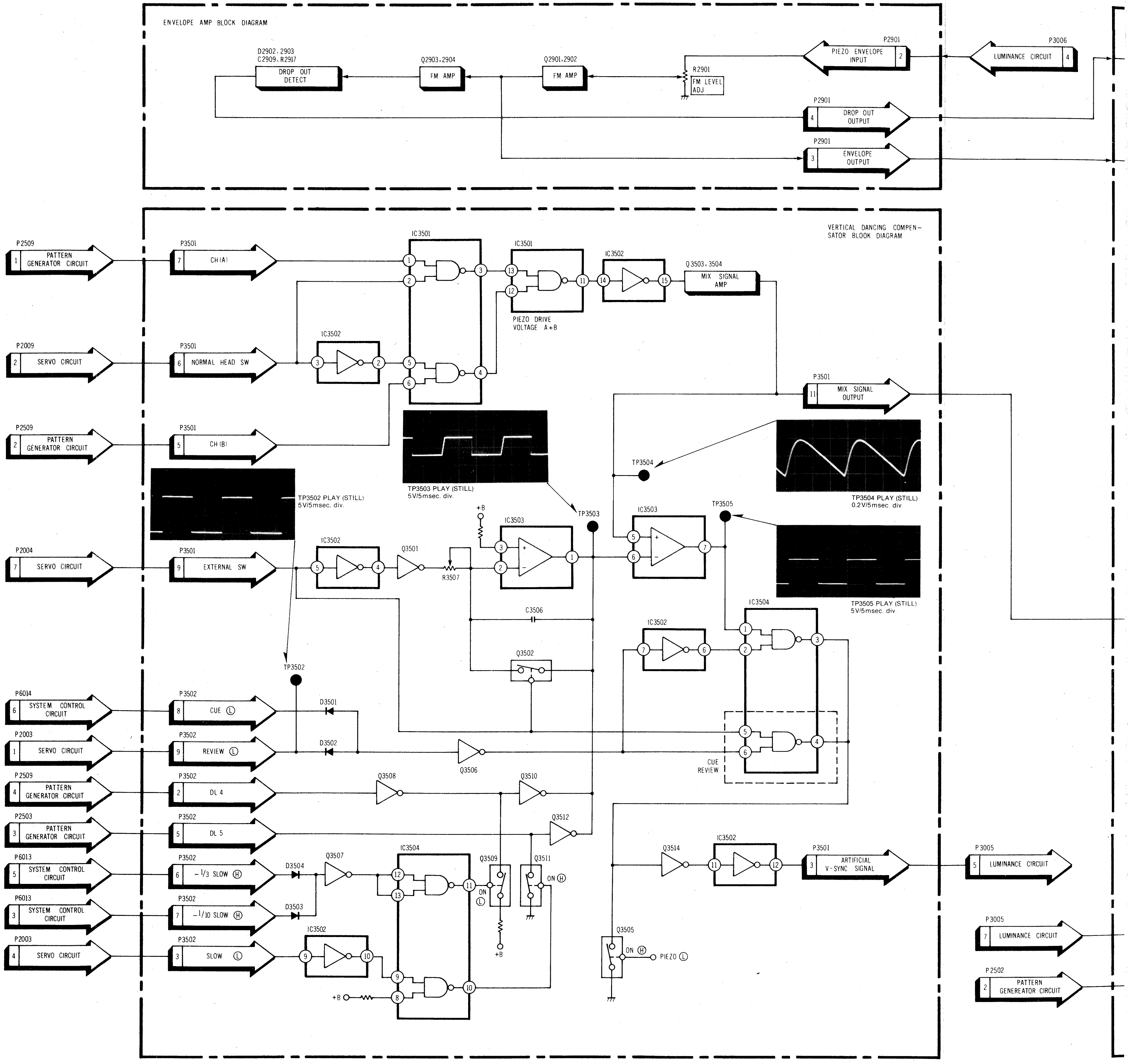

V-Dancing (2) C.B.A.


Search & Sub-System Control (1) C.B.A.

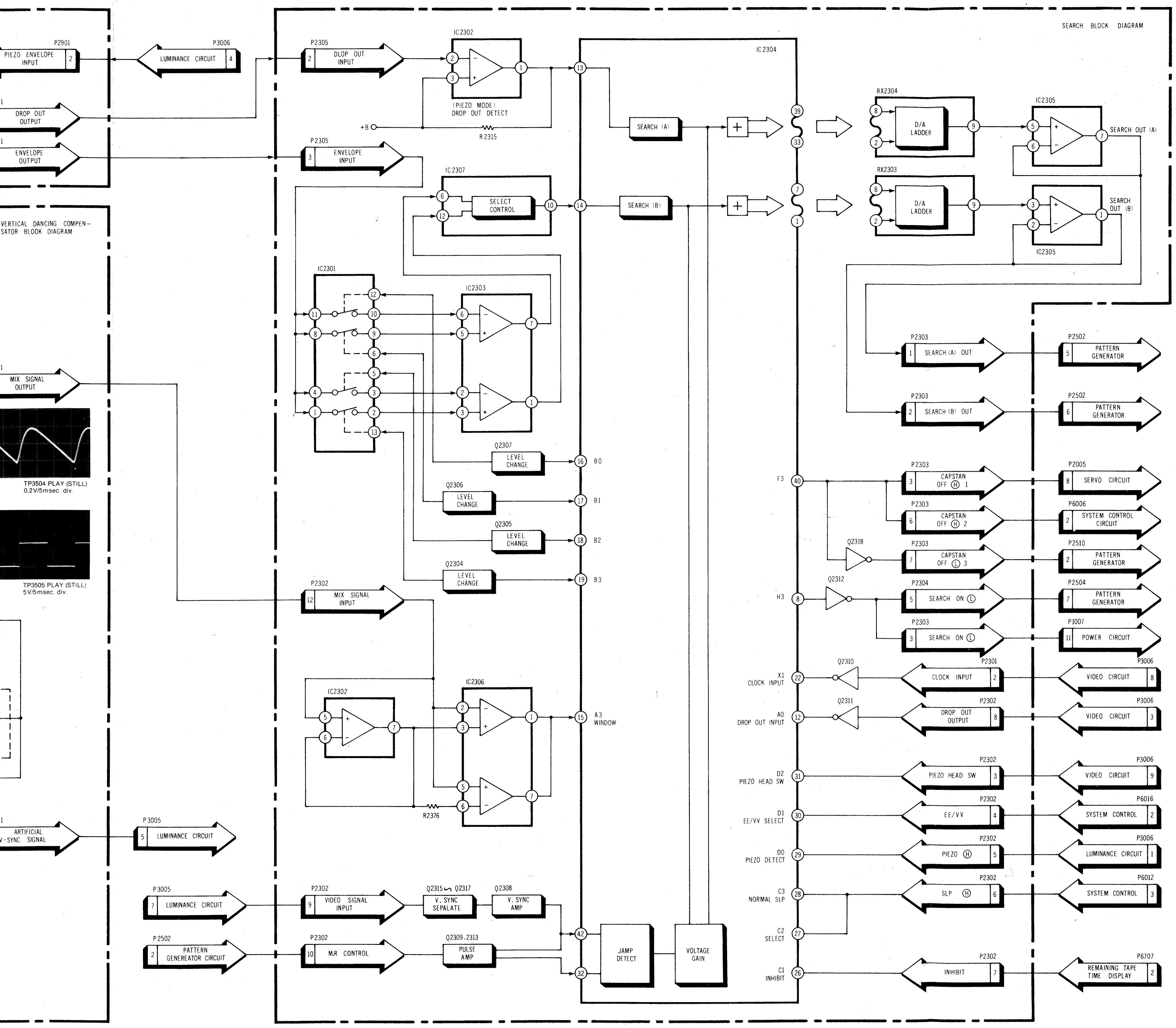

DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
AUDIO SECTION
CH2 ADJ
L4009
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
GND
TP4001
TP4002
TP4008
TP4009

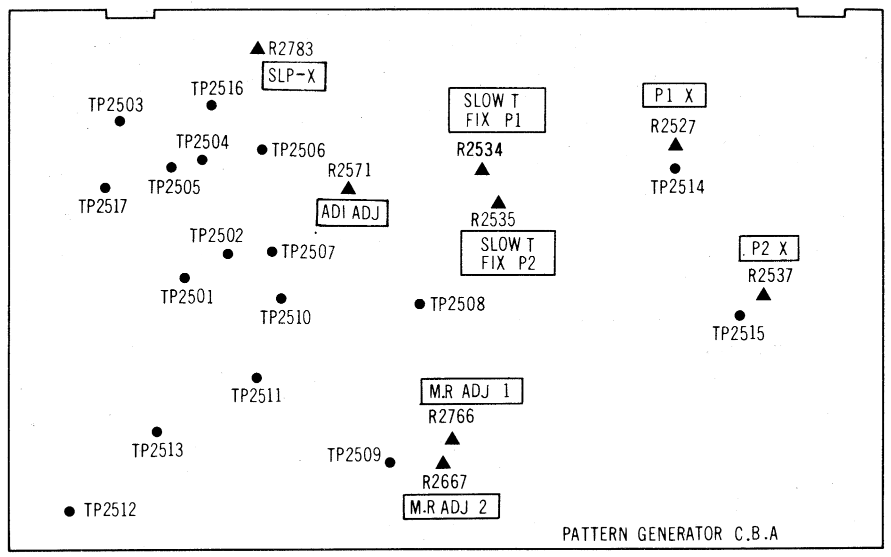

R3717
R3721
R3707
R3711
V. DANCING ADJ
V-DANCING (2) C.B.A

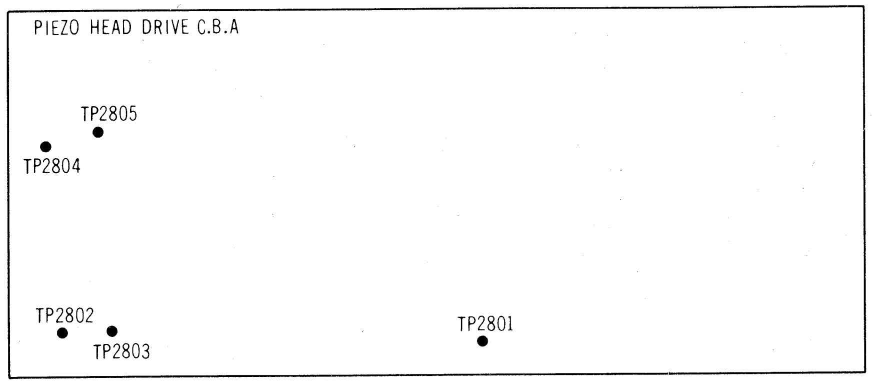

R2901
ENV ADJ
TP2901
ENVELOPE
AMP
C.B.A

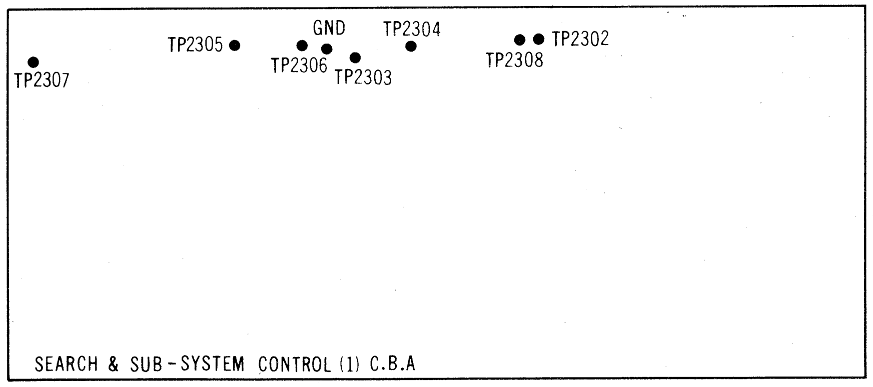

ENVELOPE AMP BLOCK DIAGRAM
D2902, 2903
C2909, R2917
DROP OUT DETECT
Q2903, 2904
FM AMP
Q2901, 2902
FM AMP
R2901
FM LEVEL ADJ
P2901
PIEZO ENVELOPE INPUT
2
P3006
LUMINANCE CIRCUIT
4
P2901
4
DROP OUT OUTPUT
P2901
3
ENVELOPE OUTPUT
VERTICAL DANCING COMPEN-SATOR BLOOK DIAGRAM
P2509
1
PATTERN GENERATOR CIRCUIT
P3501
7
CH (A)
IC3501
IC3501
PIEZO DRIVE VOLTAGE A+B
IC3502
Q3503, 3504
MIX SIGNAL AMP
P2009
2
SERVO CIRCUIT
P3501
6
NORMAL HEAD SW
IC3502
P2509
2
PATTERN GENERATOR CIRCUIT
P3501
5
CH (B)
P3501
11
MIX SIGNAL OUTPUT
TP3503 PLAY (STILL)
5V/5msec. div.
TP3502 PLAY (STILL)
5V/5msec. div.
TP3504
TP3504 PLAY (STILL)
0.2V/5msec. div.
TP3503
TP3505
+B
IC3503
IC3503
P2004
7
SERVO CIRCUIT
P3501
9
EXTERNAL SW
IC3502
Q3501
R3507
C3506
Q3502
TP3505 PLAY (STILL)
5V/5msec. div.
IC3504
IC3502
TP3502
P6014
6
SYSTEM CONTROL CIRCUIT
P3502
8
CUE Ⓛ
D3501
P2003
1
SERVO CIRCUIT
P3502
9
REVIEW Ⓛ
D3502
Q3506
CUE
REVIEW
P2509
4
PATTERN GENERATOR CIRCUIT
P3502
2
DL 4
Q3508
Q3510
P2503
3
PATTERN GENERATOR CIRCUIT
P3502
5
DL 5
Q3512
P6013
5
SYSTEM CONTROL CIRCUIT
P3502
6
−1/3 SLOW Ⓗ
D3504
Q3507
IC3504
Q3509
ON Ⓛ
Q3511
ON Ⓗ
Q3514
IC3502
P3501
3
ARTIFICIAL V-SYNC SIGNAL
P3005
5
LUMINANCE CIRCUIT
P6013
3
SYSTEM CONTROL CIRCUIT
P3502
7
−1/10 SLOW Ⓗ
D3503
+B
Q3505
ON Ⓗ
PIEZO Ⓛ
P3005
7
LUMINANCE CIRCUIT
P2003
4
SERVO CIRCUIT
P3502
3
SLOW Ⓛ
IC3502
+B
P2502
2
PATTERN GENEREATOR CIRCUIT

RCH BLOCK DIAGRAM

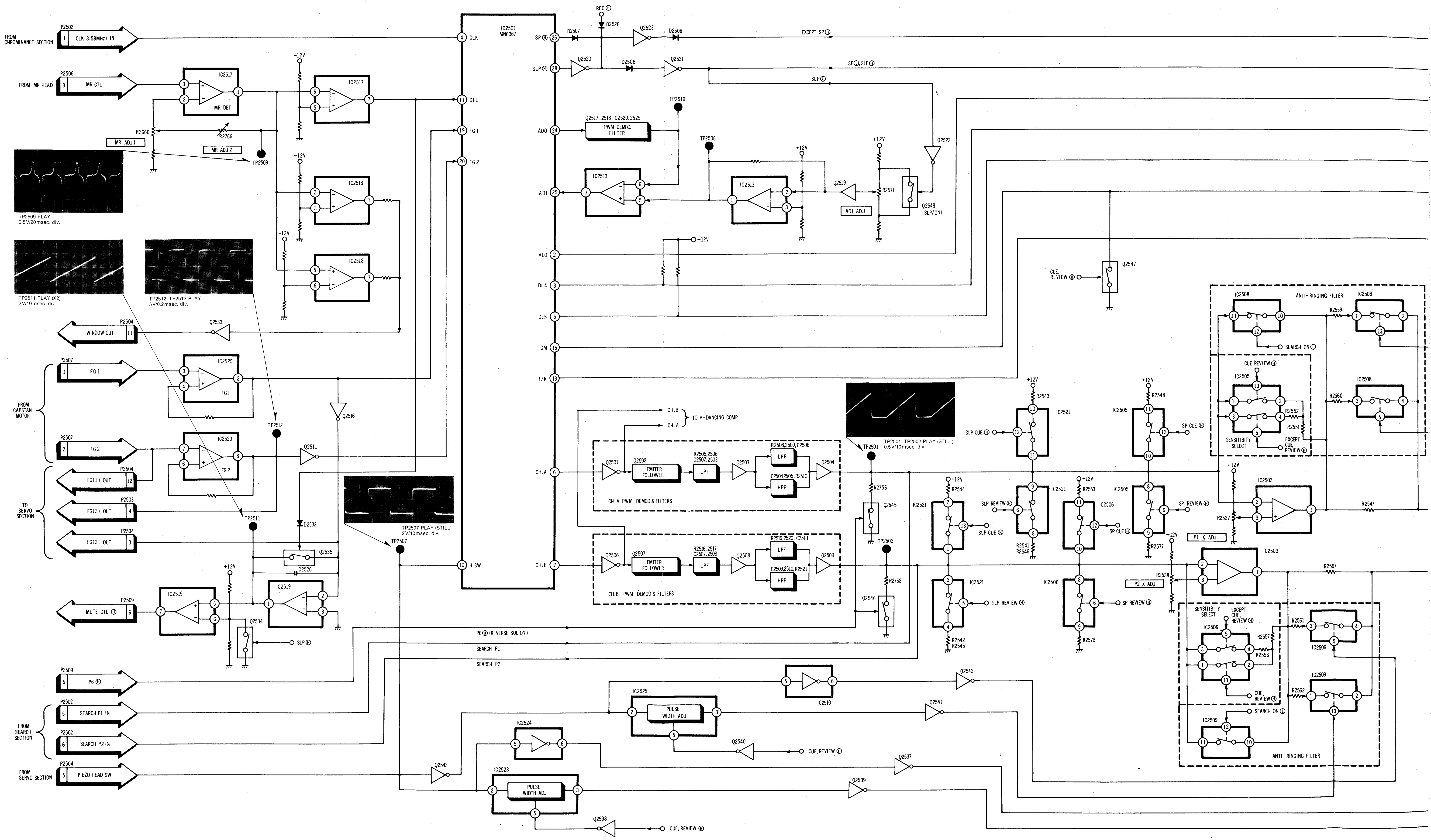

P2901
PIEZO ENVELOPE INPUT
2
P3006
LUMINANCE CIRCUIT
4
1
DROP OUT OUTPUT
1
ENVELOPE OUTPUT
VERTICAL DANCING COMPENSATOR BLOOK DIAGRAM
1
MIX SIGNAL OUTPUT
TP3504 PLAY (STILL)
0.2V/5msec. div.
TP3505 PLAY (STILL)
5V/5msec. div.
1
ARTIFICIAL V-SYNC SIGNAL
P3005
5
LUMINANCE CIRCUIT
P3005
7
LUMINANCE CIRCUIT
P2502
2
PATTERN GENEREATOR CIRCUIT
SEARCH BLOCK DIAGRAM
P2305
2
DLOP OUT INPUT
IC2302
(PIEZO MODE) DROP OUT DETECT
+B
R2315
P2305
3
ENVELOPE INPUT
IC2307
SELECT CONTROL
IC2301
IC2303
Q2307
LEVEL CHANGE
Q2306
LEVEL CHANGE
Q2305
LEVEL CHANGE
Q2304
LEVEL CHANGE
P2302
12
MIX SIGNAL INPUT
IC2302
IC2306
R2376
P2302
9
VIDEO SIGNAL INPUT
Q2315 ∽ Q2317
V. SYNC SEPALATE
Q2308
V. SYNC AMP
P2302
10
M.R CONTROL
Q2309, 2313
PULSE AMP
IC2304
SEARCH (A)
SEARCH (B)
B0
B1
B2
B3
A3 WINDOW
JAMP DETECT
VOLTAGE GAIN
RX2304
D/A LADDER
RX2303
D/A LADDER
IC2305
SEARCH OUT (A)
SEARCH OUT (B)
IC2305
F3
H3
X1 CLOCK INPUT
A0 DROP OUT INPUT
D2 PIEZO HEAD SW
D1 EE/VV SELECT
D0 PIEZO DETECT
C3 NORMAL SLP
C2 SELECT
C1 INHIBIT
Q2318
Q2312
Q2310
Q2311
P2303
1
SEARCH (A) OUT
P2303
2
SEARCH (B) OUT
P2303
3
CAPSTAN OFF Ⓗ 1
P2303
6
CAPSTAN OFF Ⓗ 2
P2303
7
CAPSTAN OFF Ⓛ 3
P2304
5
SEARCH ON Ⓛ
P2303
3
SEARCH ON Ⓛ
P2301
CLOCK INPUT
2
P2302
DROP OUT OUTPUT
8
P2302
PIEZO HEAD SW
3
P2302
EE/VV
4
P2302
PIEZO Ⓗ
5
P2302
SLP Ⓗ
6
P2302
INHIBIT
7
P2502
5
PATTERN GENERATOR
P2502
6
PATTERN GENERATOR
P2005
8
SERVO CIRCUIT
P6006
2
SYSTEM CONTROL CIRCUIT
P2510
2
PATTERN GENERATOR
P2504
7
PATTERN GENERATOR
P1007
11
POWER CIRCUIT
P3006
VIDEO CIRCUIT
8
P3006
VIDEO CIRCUIT
3
P3006
VIDEO CIRCUIT
9
P6016
SYSTEM CONTROL
2
P3006
LUMINANCE CIRCUIT
1
P6012
SYSTEM CONTROL
3
P6707
REMAINING TAPE TIME DISPLAY
2

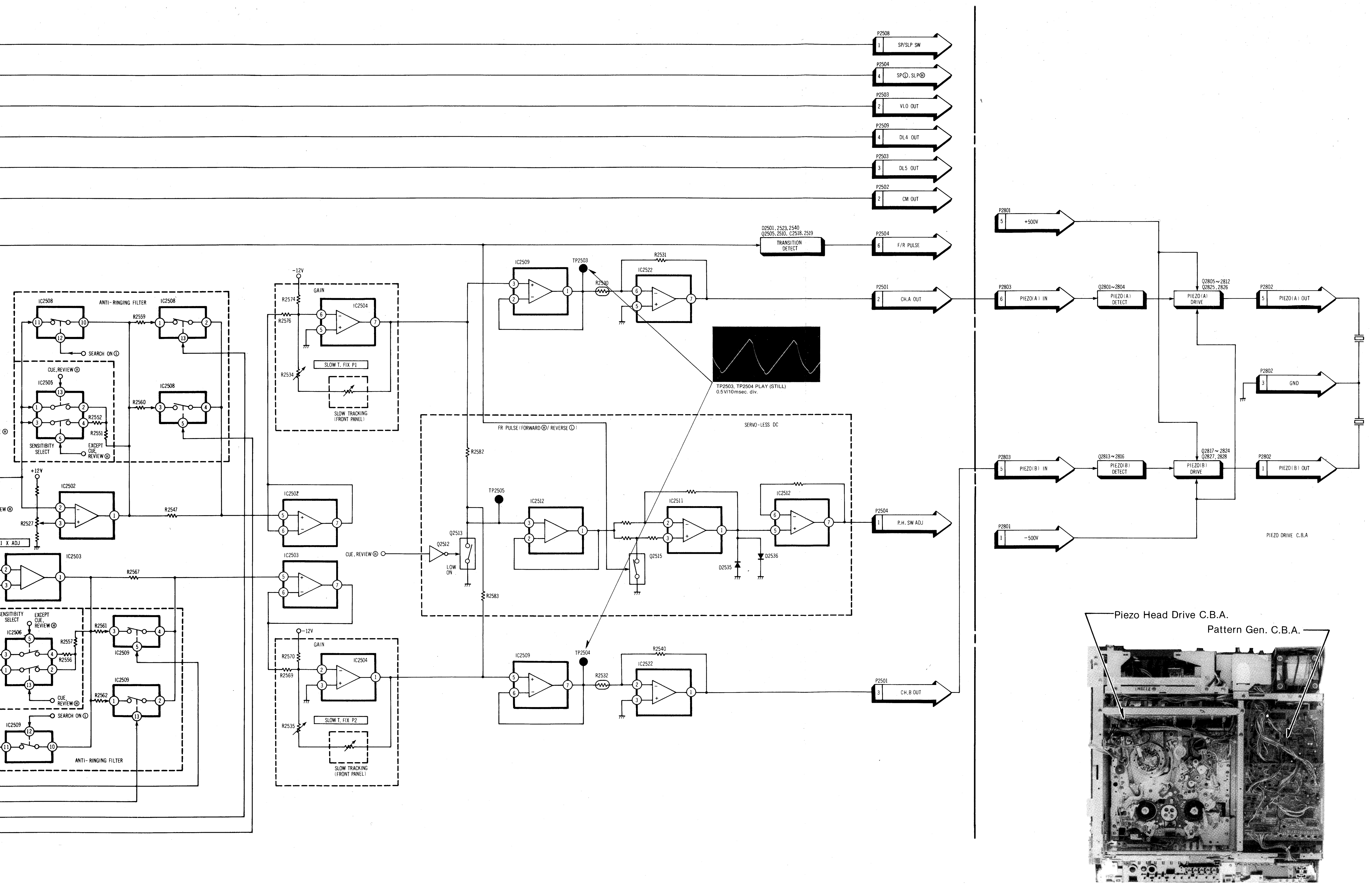

R2783
SLP-X
TP2516
TP2503
TP2504
TP2506
TP2505
TP2517
R2571
ADJ ADJ
TP2502
TP2507
TP2501
TP2510
TP2511
TP2513
TP2512
SLOW T FIX P1
R2534
R2535
SLOW T FIX P2
TP2508
M.R ADJ 1
R2766
TP2509
R2667
M.R ADJ 2
P1 X
R2527
TP2514
P2 X
R2537
TP2515
PATTERN GENERATOR C.B.A


PIEZO HEAD DRIVE C.B.A
TP2805
TP2804
TP2802
TP2803
TP2801

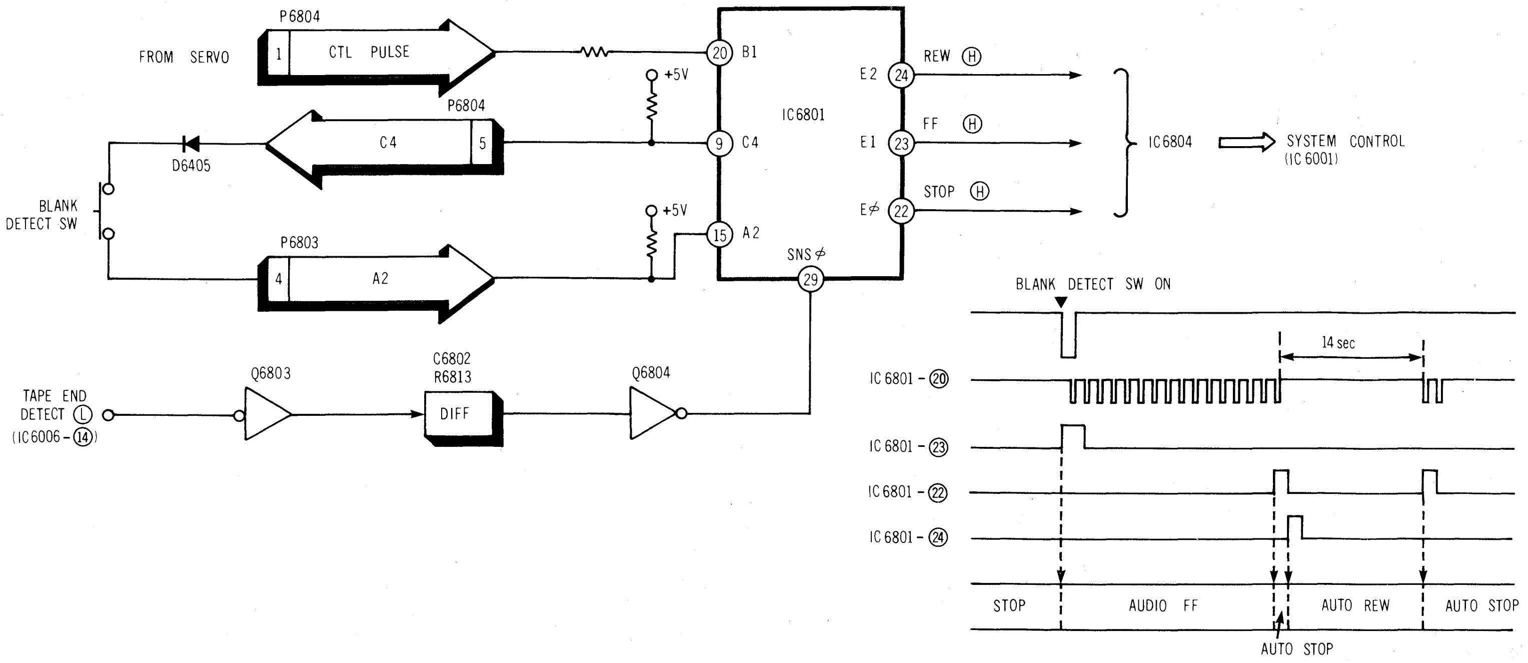

TP2307
TP2305
GND
TP2306
TP2304
TP2303
TP2302
TP2308
SEARCH & SUB-SYSTEM CONTROL (1) C.B.A

PATTER GENERATOR & PIEZO HEAD DRIVE BLOCK DIAGRAM

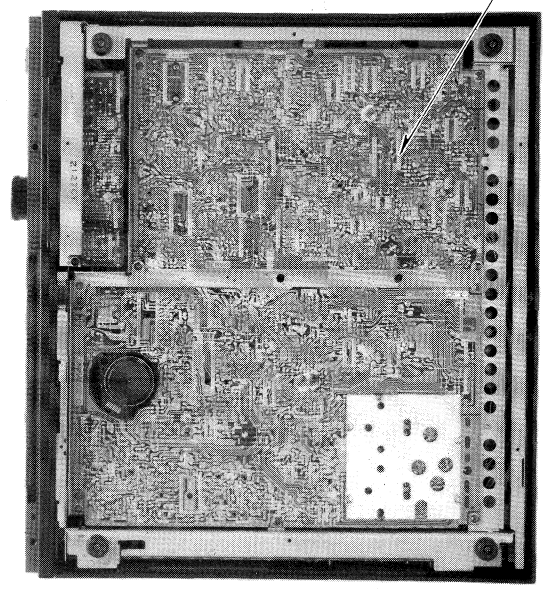

FROM CHROMINANCE SECTION
P2502
CLK(3.58MHz) IN
FROM MR HEAD
P2506
MR CTL
IC2517
MR DET
R2666
MR ADJ 1
R2766
MR ADJ 2
TP2509
TP2509 PLAY 0.5V/20msec. div.
IC2518
TP2511 PLAY (X2) 2V/10msec. div.
TP2512, TP2513 PLAY 5V/0.2msec. div.
P2504
WINDOW OUT
Q2533
FROM CAPSTAN MOTOR
P2507
FG 1
FG 2
IC2520
FG1
FG2
TP2512
Q2516
Q2511
TO SERVO SECTION
FG(1) OUT
P2503
FG(3) OUT
FG(2) OUT
TP2511
D2532
Q2535
C2526
TP2507 PLAY (STILL) 2V/10msec. div.
TP2507
IC2519
Q2534
P2509
MUTE CTL Ⓗ
SLP Ⓗ
P6 Ⓗ
FROM SEARCH SECTION
SEARCH P1 IN
SEARCH P2 IN
FROM SERVO SECTION
PIEZO HEAD SW
IC2501
MN6067
CLK
CTL
FG 1
FG 2
H.SW
SP Ⓗ
SLP Ⓗ
ADO
ADI
VLO
DL4
DL5
CM
F/R
CH.A
CH.B
REC Ⓗ
D2526
D2507
Q2523
D2508
EXCEPT SP Ⓗ
Q2520
D2506
Q2521
SP Ⓛ, SLP Ⓗ
SLP Ⓛ
TP2516
Q2517, 2518, C2520, 2529
PWM DEMOD. FILTER
IC2513
TP2506
+12V
−12V
Q2519
R2571
ADI ADJ
Q2522
Q2548 (SLP/ON)
CUE, REVIEW Ⓗ
Q2547
CH.B
CH.A
TO V-DANCING COMP
Q2501
Q2502
EMITER FOLLOWER
R2505, 2506 C2502, 2503
LPF
Q2503
R2508, 2509, C2506
C2504, 2505, R2510
HPF
Q2504
CH.A PWM DEMOD & FILTERS
Q2506
Q2507
R2516, 2517 C2507, 2508
Q2508
R2519, 2520, C2511
C2509, 2510, R2521
Q2509
CH.B PWM DEMOD & FILTERS
TP2501, TP2502 PLAY (STILL) 0.5V/10msec. div.
TP2501
R2756
Q2545
TP2502
R2758
Q2546
P6 Ⓗ (REVERSE SOL.ON)
SEARCH P1
SEARCH P2
IC2521
R2543
SLP CUE Ⓗ
SLP REVIEW Ⓗ
R2544
SLP CUE Ⓗ
R2541
R2546
R2542
R2545
SLP REVIEW Ⓗ
IC2505
R2548
SP CUE Ⓗ
IC2506
R2553
SP CUE Ⓗ
R2578
SP REVIEW Ⓗ
R2577
IC2508
ANTI-RINGING FILTER
R2559
SEARCH ON Ⓛ
CUE, REVIEW Ⓗ
R2560
R2552
R2551
SENSITIBITY SELECT
EXCEPT CUE, REVIEW Ⓗ
IC2502
R2527
R2547
P1 X ADJ
IC2503
R2538
P2 X ADJ
R2567
SENSITIBITY SELECT
EXCEPT CUE, REVIEW Ⓗ
IC2509
R2561
R2557
R2556
R2562
CUE, REVIEW Ⓗ
SEARCH ON Ⓛ
ANTI-RINGING FILTER
IC2510
Q2542
IC2525
PULSE WIDTH ADJ
Q2541
Q2540
CUE, REVIEW Ⓗ
IC2524
Q2537
Q2543
IC2523
PULSE WIDTH ADJ
Q2539
Q2538
CUE, REVIEW Ⓗ


P2508
1 SP/SLP SW
P2504
4 SPⓁ, SLPⒽ
P2503
2 VLO OUT
P2509
4 DL4 OUT
P2503
3 DL5 OUT
P2502
2 CM OUT
D2501, 2523, 2540
Q2505, 2510, C2518, 2519
TRANSITION DETECT
P2504
6 F/R PULSE
P2501
2 CH.A OUT
IC2508
ANTI-RINGING FILTER
IC2508
R2559
SEARCH ON Ⓛ
CUE, REVIEW Ⓗ
IC2505
R2552
R2551
SENSITIBITY SELECT
EXCEPT CUE, REVIEW Ⓗ
IC2508
R2560
+12V
IC2502
R2527
R2547
1 X ADJ
IC2503
R2567
-12V
GAIN
R2574
R2576
IC2504
SLOW T. FIX P1
R2534
SLOW TRACKING (FRONT PANEL)
IC2502
IC2503
CUE, REVIEW Ⓗ
IC2509
TP2503
R2530
R2531
IC2522
TP2503, TP2504 PLAY (STILL)
0.5V/10msec. div.
FR PULSE (FORWARD Ⓗ / REVERSE Ⓛ)
SERVO-LESS DC
R2582
TP2505
IC2512
IC2511
IC2512
Q2513
Q2512
LOW ON
Q2515
D2535
D2536
R2583
P2504
1 P.H. SW ADJ
SENSITIBITY SELECT
EXCEPT CUE, REVIEW Ⓗ
IC2506
R2557
R2556
R2561
IC2509
R2562
IC2509
CUE, REVIEW Ⓗ
SEARCH ON Ⓛ
IC2509
ANTI-RINGING FILTER
-12V
GAIN
R2570
R2569
IC2504
SLOW T. FIX P2
R2535
SLOW TRACKING (FRONT PANEL)
IC2509
TP2504
R2532
R2540
IC2522
P2501
3 CH.B OUT
P2801
5 +500V
P2803
6 PIEZO(A) IN
Q2801~2804
PIEZO(A) DETECT
Q2805~2812
Q2825, 2826
PIEZO(A) DRIVE
P2802
5 PIEZO(A) OUT
P2802
3 GND
P2803
5 PIEZO(B) IN
Q2813~2816
PIEZO(B) DETECT
Q2817~2824
Q2827, 2828
PIEZO(B) DRIVE
P2802
1 PIEZO(B) OUT
P2801
1 -500V
PIEZO DRIVE C.B.A
Piezo Head Drive C.B.A.
Pattern Gen. C.B.A.

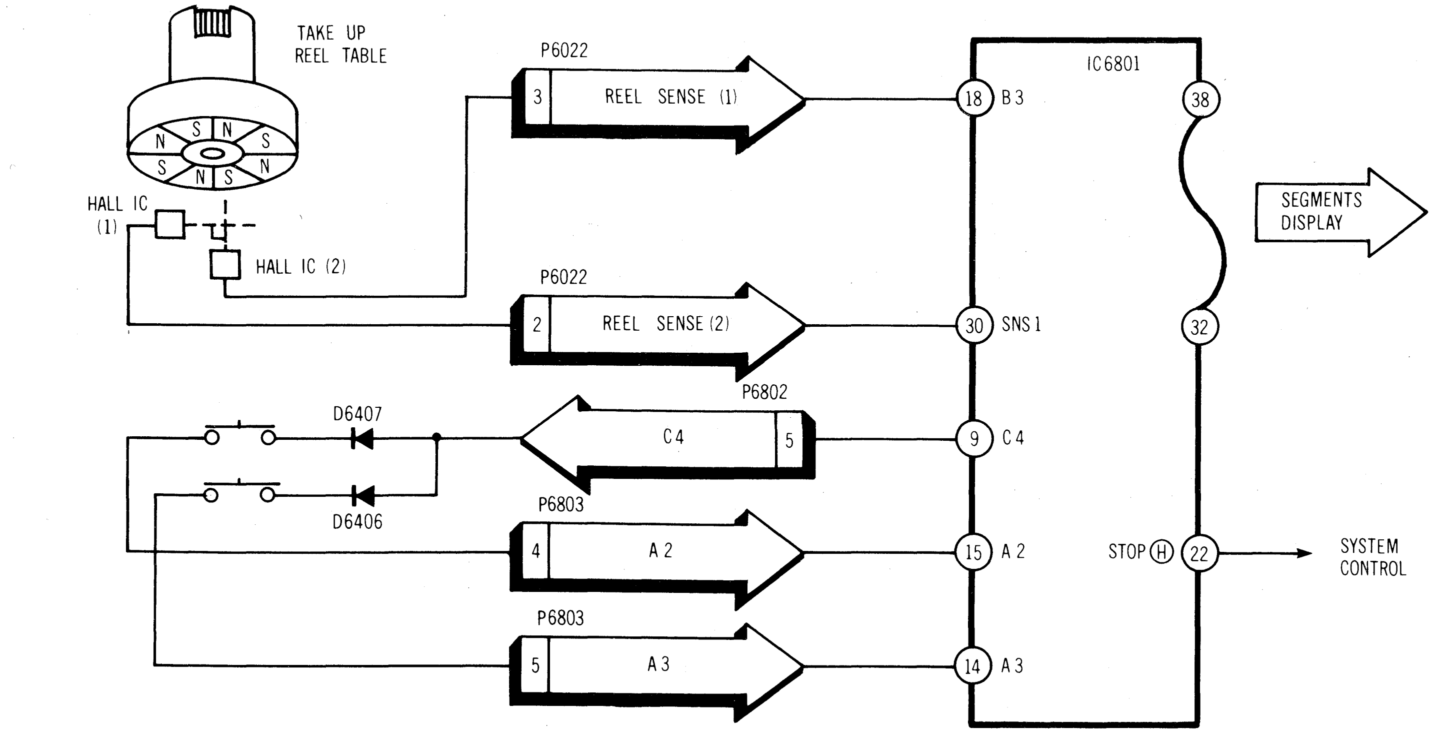
BLANK TAPE DETECT BLOCK DIAGRAM

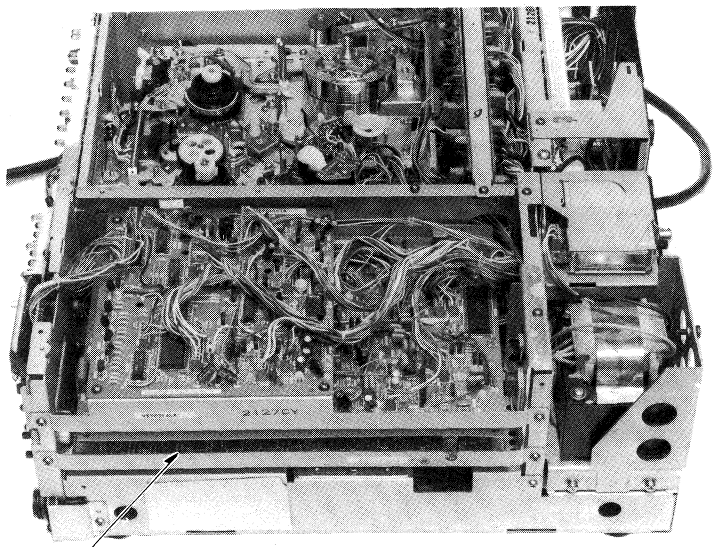

FROM SERVO
P6804
1 CTL PULSE
P6804
C4 5
D6405
BLANK DETECT SW
P6803
4 A2
+5V
+5V
20 B1
9 C4
15 A2
IC6801
E2 24
E1 23
E≠ 22
SNS≠ 29
REW Ⓗ
FF Ⓗ
STOP Ⓗ
IC6804
SYSTEM CONTROL (IC6001)
TAPE END DETECT Ⓛ (IC6006-⑭)
Q6803
C6802 R6813
DIFF
Q6804
BLANK DETECT SW ON
14 sec
IC6801-⑳
IC6801-㉓
IC6801-㉒
IC6801-㉔
STOP
AUDIO FF
AUTO REW
AUTO STOP
AUTO STOP

Servo/Index (1) C.B.A.



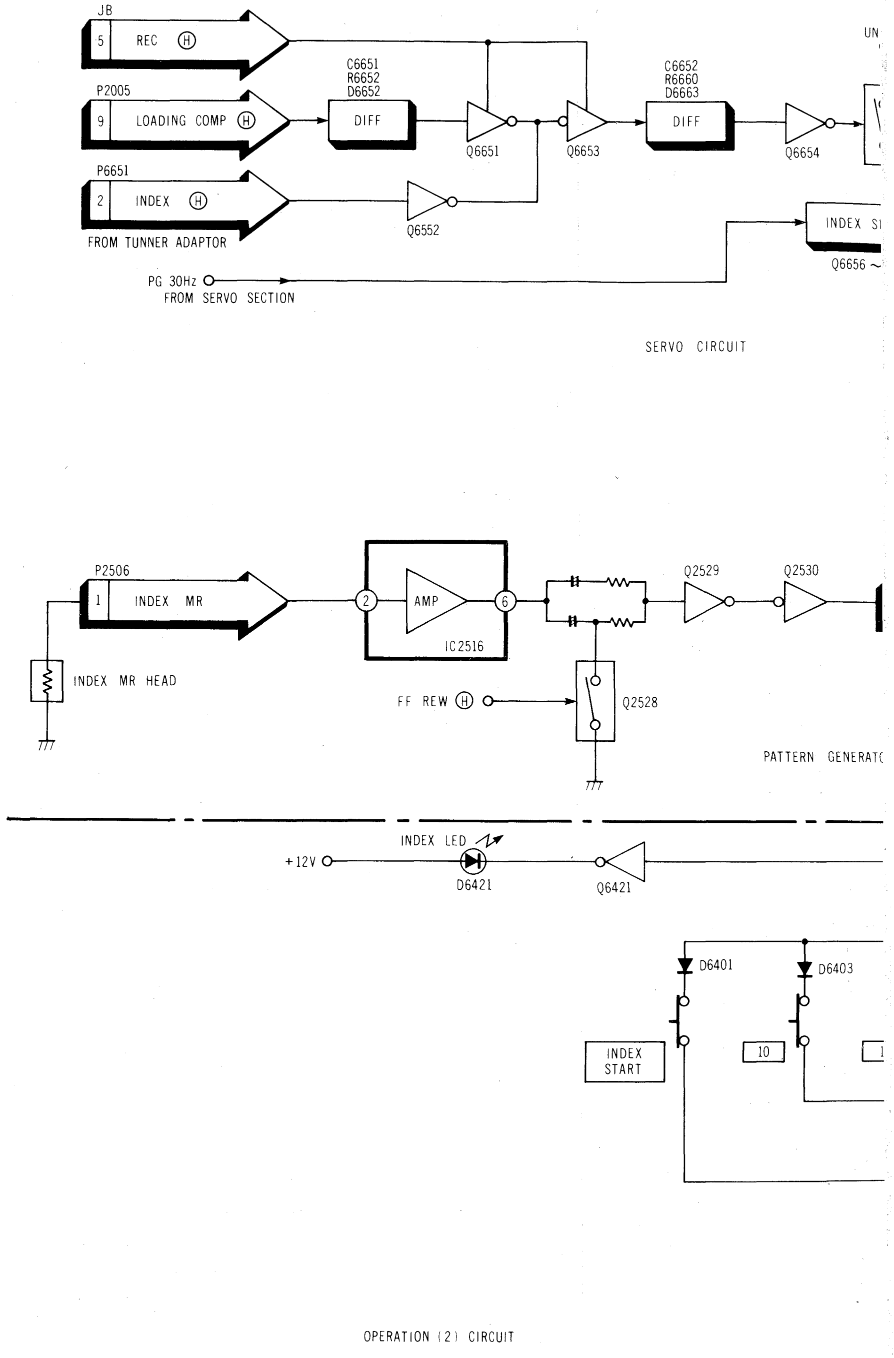
COUNTER OPERATION BLOCK DIAGRAM


TAKE UP REEL TABLE
N S N S N S N S
HALL IC (1)
HALL IC (2)
P6022
3 REEL SENSE (1)
P6022
2 REEL SENSE (2)
P6802
C4 5
D6407
D6406
P6803
4 A2
P6803
5 A3
IC6801
18 B3
30 SNS1
9 C4
15 A2
14 A3
38
32
STOP Ⓗ 22
SEGMENTS DISPLAY
SYSTEM CONTROL

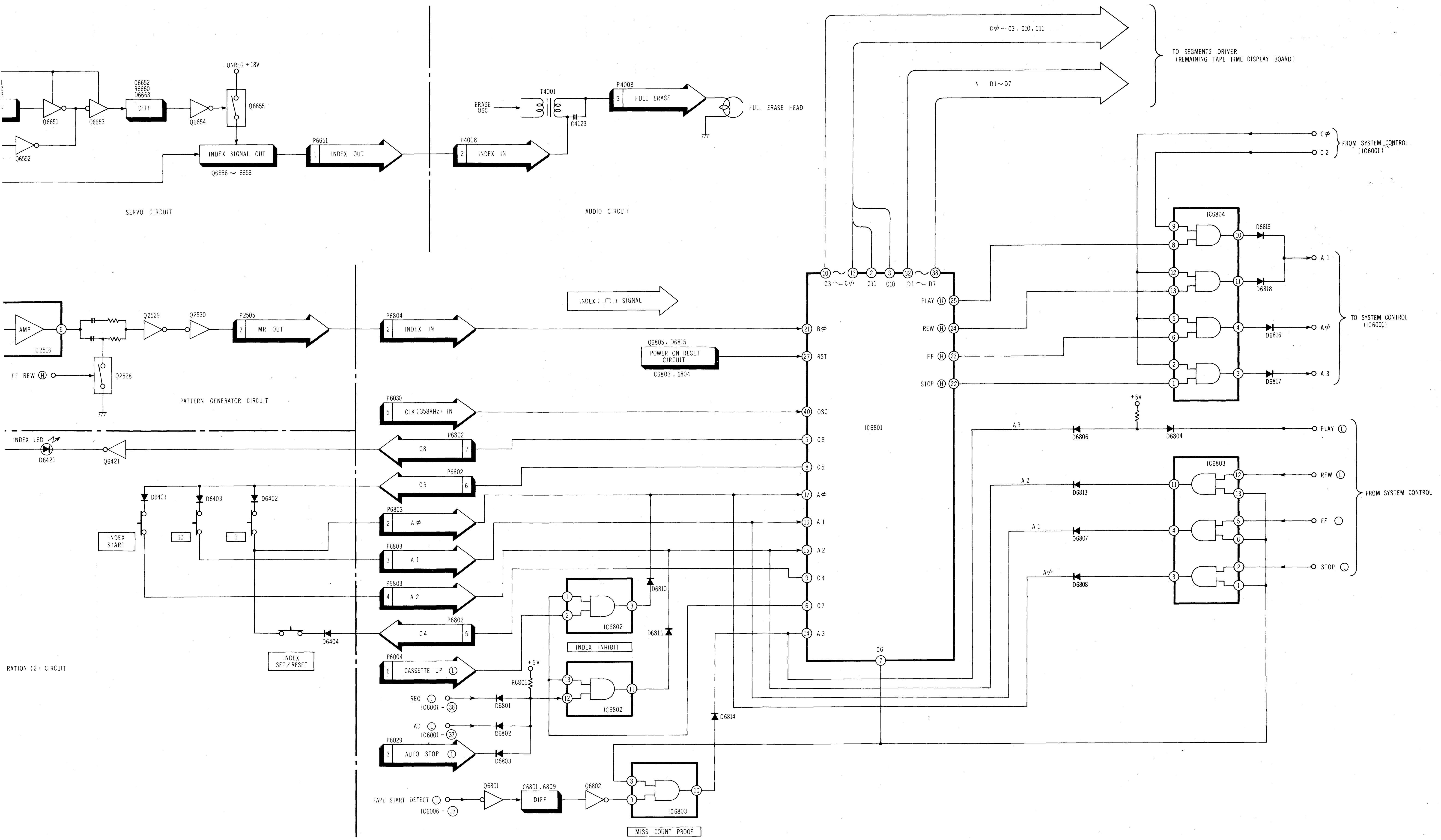


System Control & Index (2) C.B.A.

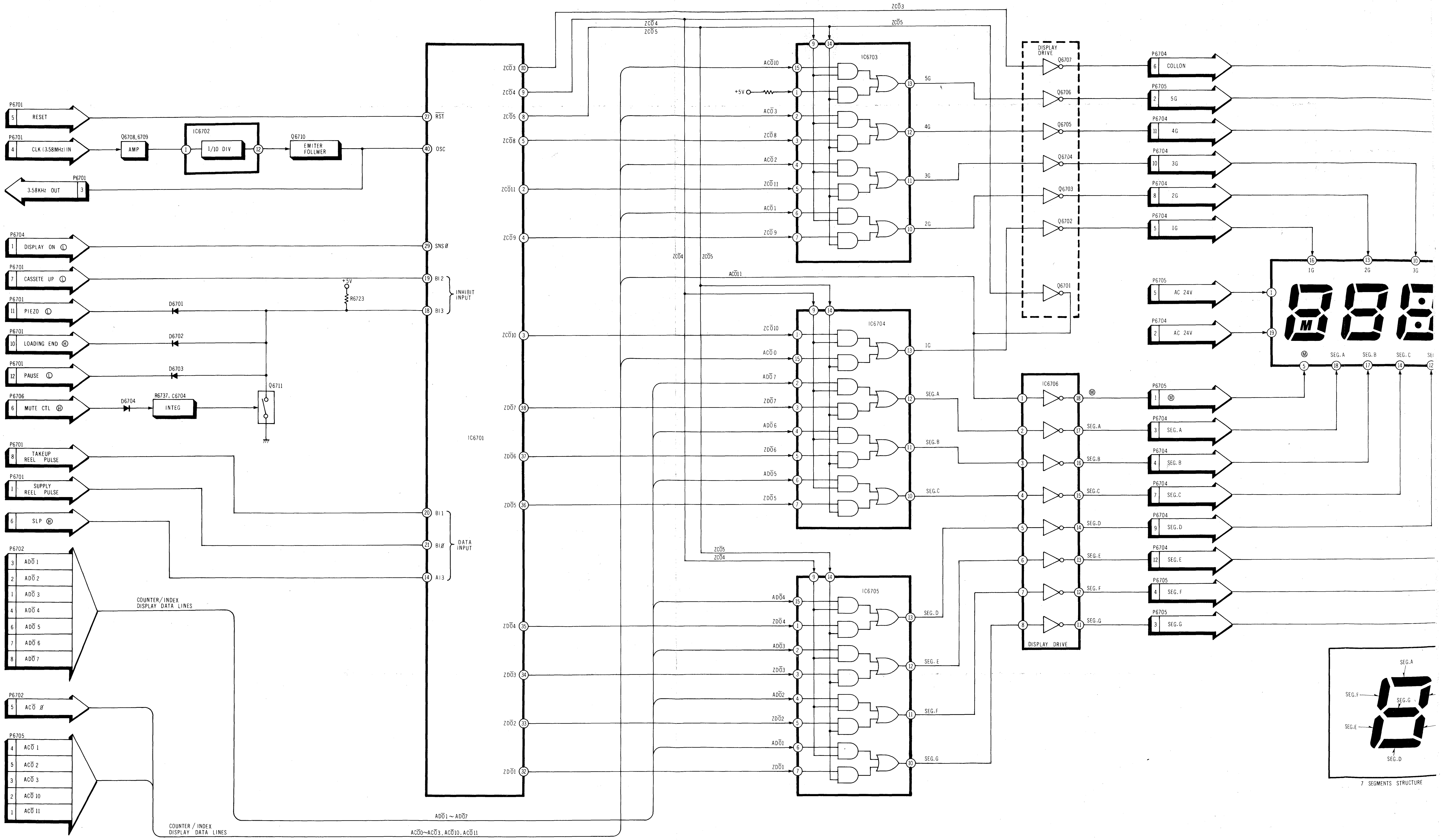
INDEX SIGNAL RECORD/INDEX SIG


J8
5 REC Ⓗ
P2005
9 LOADING COMP Ⓗ
P6651
2 INDEX Ⓗ
FROM TUNNER ADAPTOR
C6651 R6652 D6652
DIFF
Q6651
Q6653
Q6552
C6652 R6660 D6663
DIFF
Q6654
UN
INDEX SI
Q6656
PG 30Hz
FROM SERVO SECTION
SERVO CIRCUIT
P2506
1 INDEX MR
INDEX MR HEAD
2 AMP 6
IC2516
Q2529
Q2530
FF REW Ⓗ
Q2528
PATTERN GENERAT
INDEX LED
+12V
D6421
Q6421
D6401
D6403
INDEX START
10
OPERATION (2) CIRCUIT

L RECORD/INDEX SIGNAL DETECTION BLOCK DIAGRAM

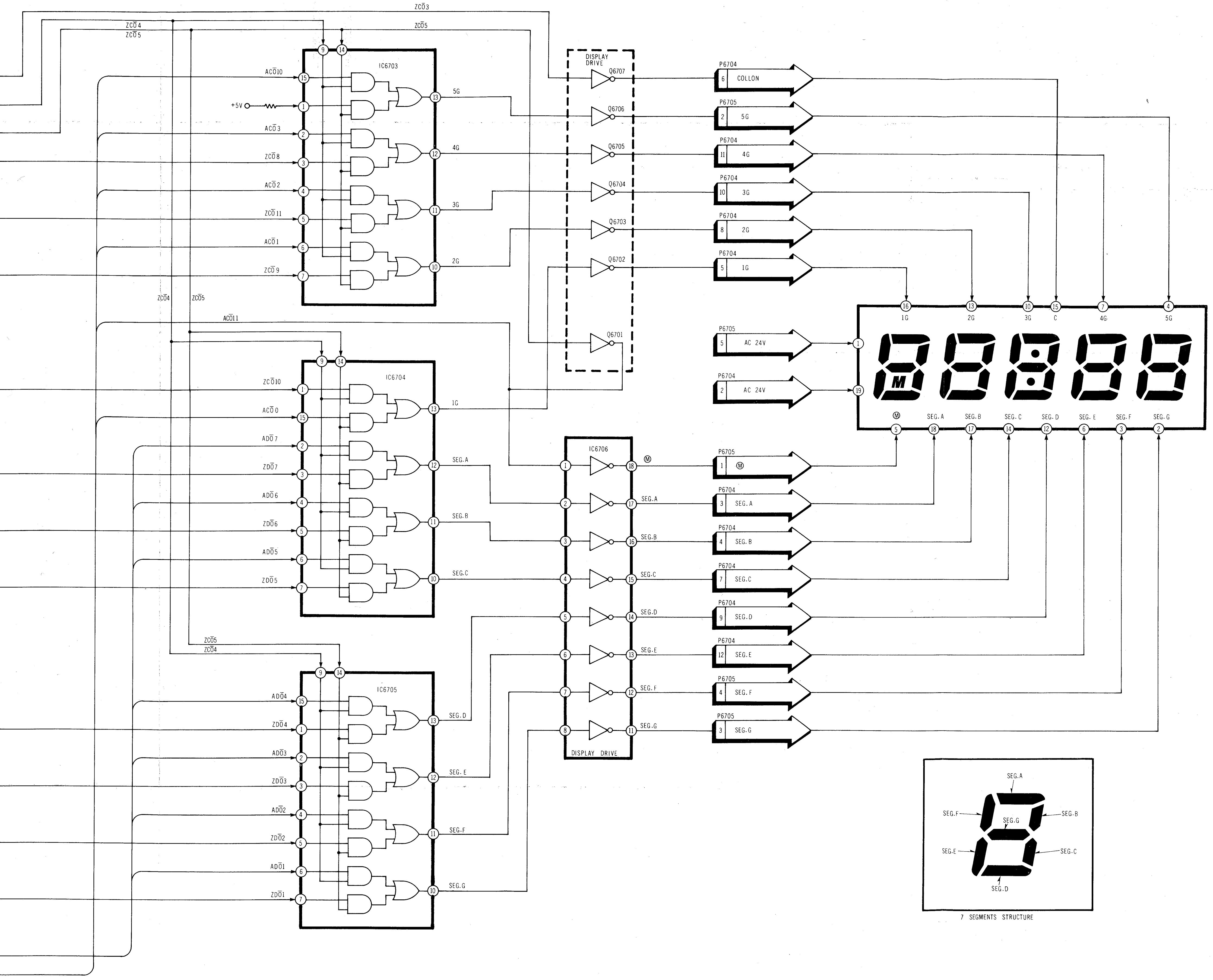

UNREG +18V
C6652
R6660
D6663
DIFF
Q6651
Q6653
Q6654
Q6655
Q6552
INDEX SIGNAL OUT
Q6656 ~ 6659
P6651
1 INDEX OUT
SERVO CIRCUIT
ERASE OSC
T4001
C4123
P4008
3 FULL ERASE
FULL ERASE HEAD
P4008
2 INDEX IN
AUDIO CIRCUIT
Cϕ ~ C3, C10, C11
D1 ~ D7
TO SEGMENTS DRIVER (REMAINING TAPE TIME DISPLAY BOARD)
Cϕ
C2
FROM SYSTEM CONTROL (IC6001)
IC6804
D6819
D6818
D6816
D6817
A1
Aϕ
A3
TO SYSTEM CONTROL (IC6001)
C3 ~ Cϕ
C11
C10
D1 ~ D7
PLAY Ⓗ
REW Ⓗ
FF Ⓗ
STOP Ⓗ
INDEX (⎍) SIGNAL
AMP
IC2516
Q2529
Q2530
P2505
7 MR OUT
Q2528
FF REW Ⓗ
PATTERN GENERATOR CIRCUIT
P6804
2 INDEX IN
Bϕ
Q6805, D6815
POWER ON RESET CIRCUIT
C6803, 6804
RST
P6030
5 CLK (358KHz) IN
OSC
IC6801
INDEX LED
D6421
Q6421
P6802
C8 7
C8
P6802
C5 6
C5
D6401
D6403
D6402
INDEX START
10
1
P6803
2 Aϕ
P6803
3 A1
P6803
4 A2
Aϕ
A1
A2
C4
C7
A3
P6802
C4 5
D6404
INDEX SET/RESET
P6004
6 CASSETTE UP Ⓛ
+5V
R6801
REC Ⓛ
IC6001 - ㊱
AD Ⓛ
IC6001 - ㊲
D6801
D6802
D6803
P6029
3 AUTO STOP Ⓛ
IC6802
INDEX INHIBIT
IC6802
D6810
D6811
D6814
TAPE START DETECT Ⓛ
IC6006 - ⑬
Q6801
C6801, 6809
DIFF
Q6802
IC6803
MISS COUNT PROOF
C6
+5V
A3
D6806
D6804
PLAY Ⓛ
A2
D6813
IC6803
REW Ⓛ
A1
D6807
FF Ⓛ
Aϕ
D6808
STOP Ⓛ
FROM SYSTEM CONTROL
RATION (2) CIRCUIT

TAPE REMAINING TIME DISPLAY BLOCK DIAGRAM

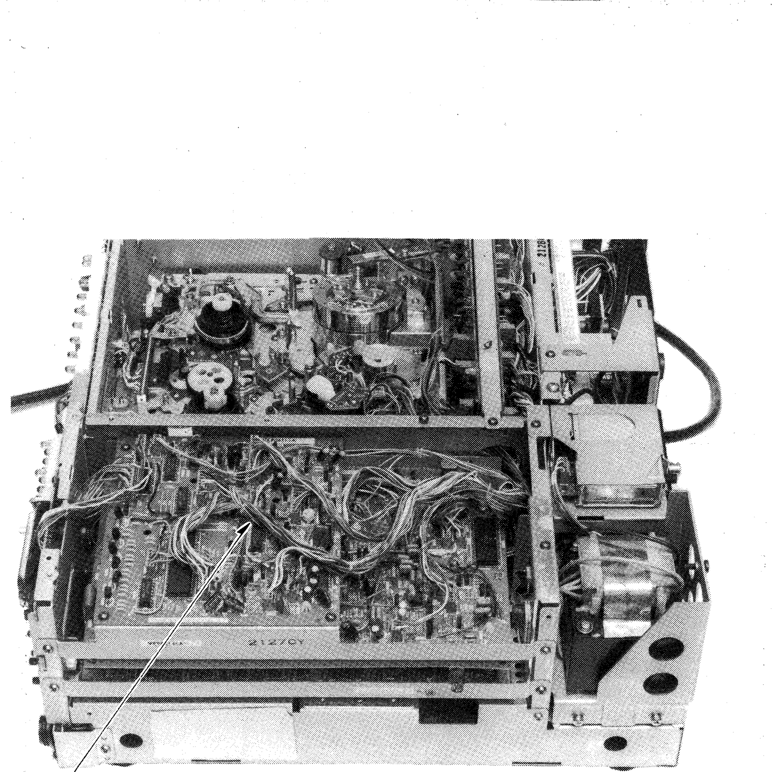


P6701
5 RESET
P6701
4 CLK (3.58MHz) IN
Q6708, 6709
AMP
IC6702
1/10 DIV
Q6710
EMITER FOLLWER
P6701
3.58KHz OUT
3
P6704
1 DISPLAY ON Ⓛ
P6701
7 CASSETE UP Ⓛ
P6701
11 PIEZO Ⓛ
P6701
10 LOADING END Ⓗ
P6701
12 PAUSE Ⓛ
P6706
6 MUTE CTL Ⓗ
D6701
D6702
D6703
D6704
R6737, C6704
INTEG
Q6711
+5V
R6723
P6701
8 TAKEUP REEL PULSE
P6701
1 SUPPLY REEL PULSE
6 SLP Ⓗ
P6702
3 AD0̄ 1
2 AD0̄ 2
1 AD0̄ 3
4 AD0̄ 4
6 AD0̄ 5
7 AD0̄ 6
8 AD0̄ 7
COUNTER/INDEX DISPLAY DATA LINES
P6702
5 AC0̄ Ø
P6705
4 AC0̄ 1
5 AC0̄ 2
3 AC0̄ 3
2 AC0̄ 10
1 AC0̄ 11
COUNTER / INDEX DISPLAY DATA LINES
AD0̄1 ~ AD0̄7
AC0̄0~AC0̄3, AC0̄10, AC0̄11
IC6701
RST
OSC
SNS Ø
BI 2
BI 3
INHIBIT INPUT
BI 1
BI Ø
AI 3
DATA INPUT
ZC0̄3
ZC0̄4
ZC0̄5
ZC0̄8
ZC0̄11
ZC0̄9
ZC0̄10
ZD0̄7
ZD0̄6
ZD0̄5
ZD0̄4
ZD0̄3
ZD0̄2
ZD0̄1
IC6703
AC0̄10
+5V
AC0̄3
ZC0̄8
AC0̄2
ZC0̄11
AC0̄1
ZC0̄9
5G
4G
3G
2G
IC6704
ZC0̄10
AC0̄0
AD0̄7
ZD0̄7
AD0̄6
ZD0̄6
AD0̄5
ZD0̄5
AC0̄11
1G
SEG. A
SEG. B
SEG. C
IC6705
AD0̄4
ZD0̄4
AD0̄3
ZD0̄3
AD0̄2
ZD0̄2
AD0̄1
ZD0̄1
SEG. D
SEG. E
SEG. F
SEG. G
DISPLAY DRIVE
Q6707
Q6706
Q6705
Q6704
Q6703
Q6702
Q6701
IC6706
DISPLAY DRIVE
Ⓜ
P6704
6 COLLON
P6705
2 5G
P6704
11 4G
P6704
10 3G
P6704
8 2G
P6704
5 1G
P6705
5 AC 24V
P6704
2 AC 24V
P6705
1 Ⓜ
P6704
3 SEG. A
P6704
4 SEG. B
P6704
7 SEG. C
P6704
9 SEG. D
P6704
12 SEG. E
P6705
4 SEG. F
P6705
3 SEG. G
1G
2G
3G
M
Ⓜ
SEG. A
SEG. B
SEG. C
SEG.A
SEG.F
SEG.G
SEG.E
SEG.D
7 SEGMENTS STRUCTURE

GRAM

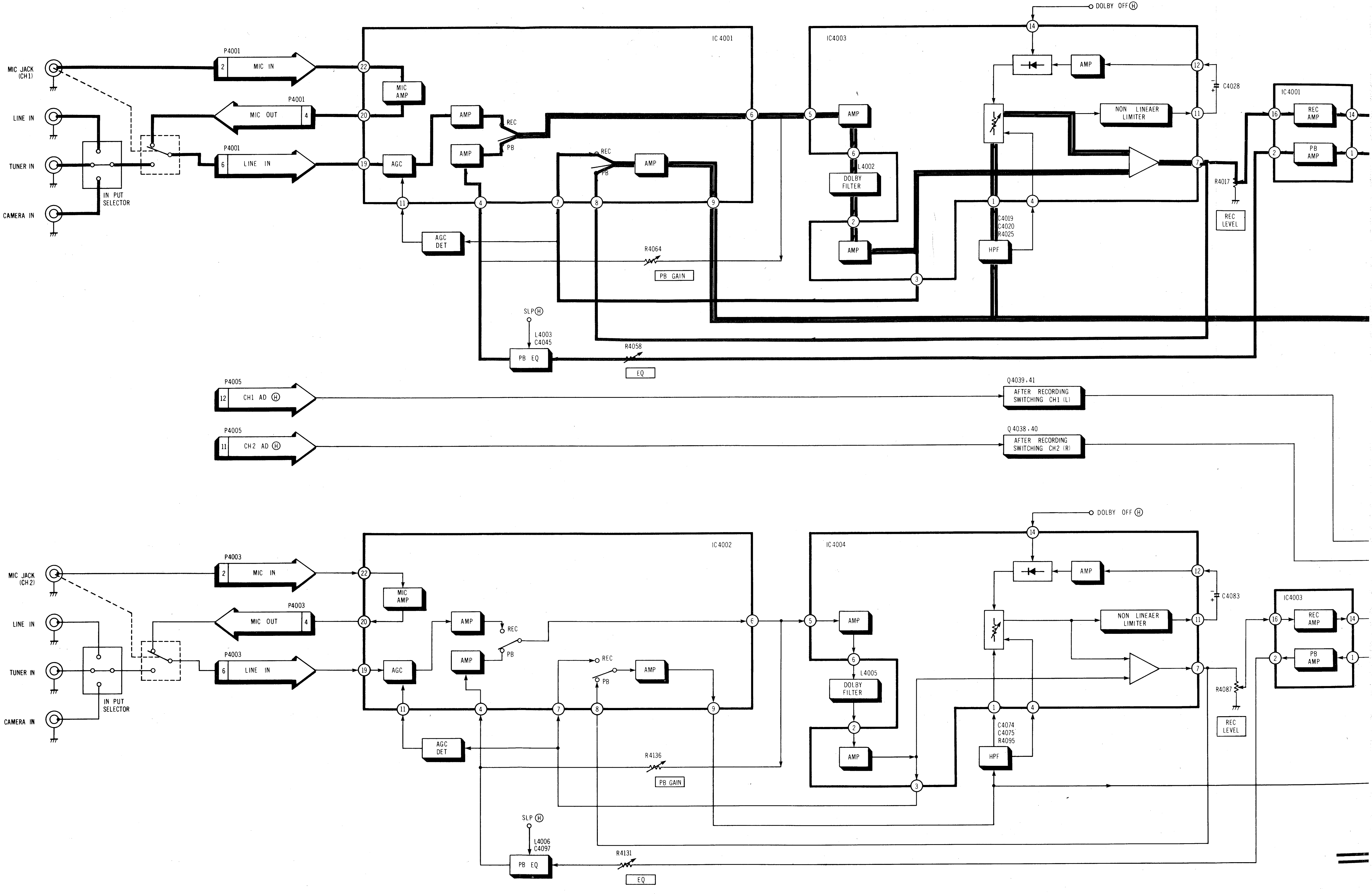


ZCO3
ZCO4
ZCO5
IC6703
ACO10
+5V
ACO3
ZCO8
ACO2
ZCO11
ACO1
ZCO9
5G
4G
3G
2G
DISPLAY DRIVE
Q6707
Q6706
Q6705
Q6704
Q6703
Q6702
Q6701
P6704 COLLON
P6705 5G
P6704 4G
P6704 3G
P6704 2G
P6704 1G
P6705 AC 24V
P6704 AC 24V
ACO11
IC6704
ZCO10
ACO0
ADO7
ZDO7
ADO6
ZDO6
ADO5
ZDO5
1G
SEG.A
SEG.B
SEG.C
IC6706
Ⓜ
P6705 Ⓜ
P6704 SEG.A
P6704 SEG.B
P6704 SEG.C
P6704 SEG.D
P6704 SEG.E
P6705 SEG.F
P6705 SEG.G
IC6705
ADO4
ZDO4
ADO3
ZDO3
ADO2
ZDO2
ADO1
ZDO1
SEG.D
SEG.E
SEG.F
SEG.G
DISPLAY DRIVE
1G
2G
3G
C
4G
5G
M
SEG.A
SEG.F
SEG.B
SEG.G
SEG.E
SEG.C
SEG.D
7 SEGMENTS STRUCTURE

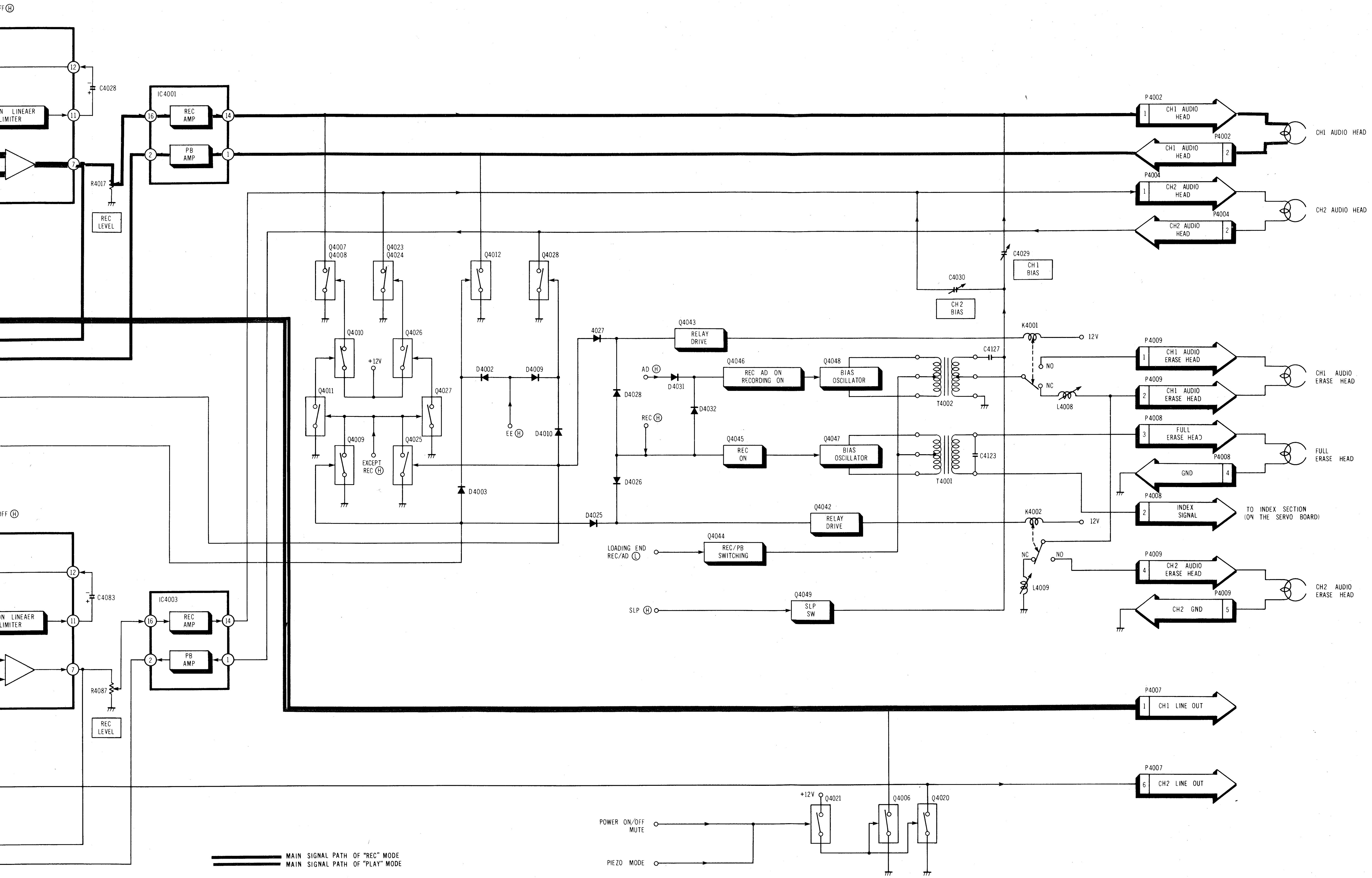


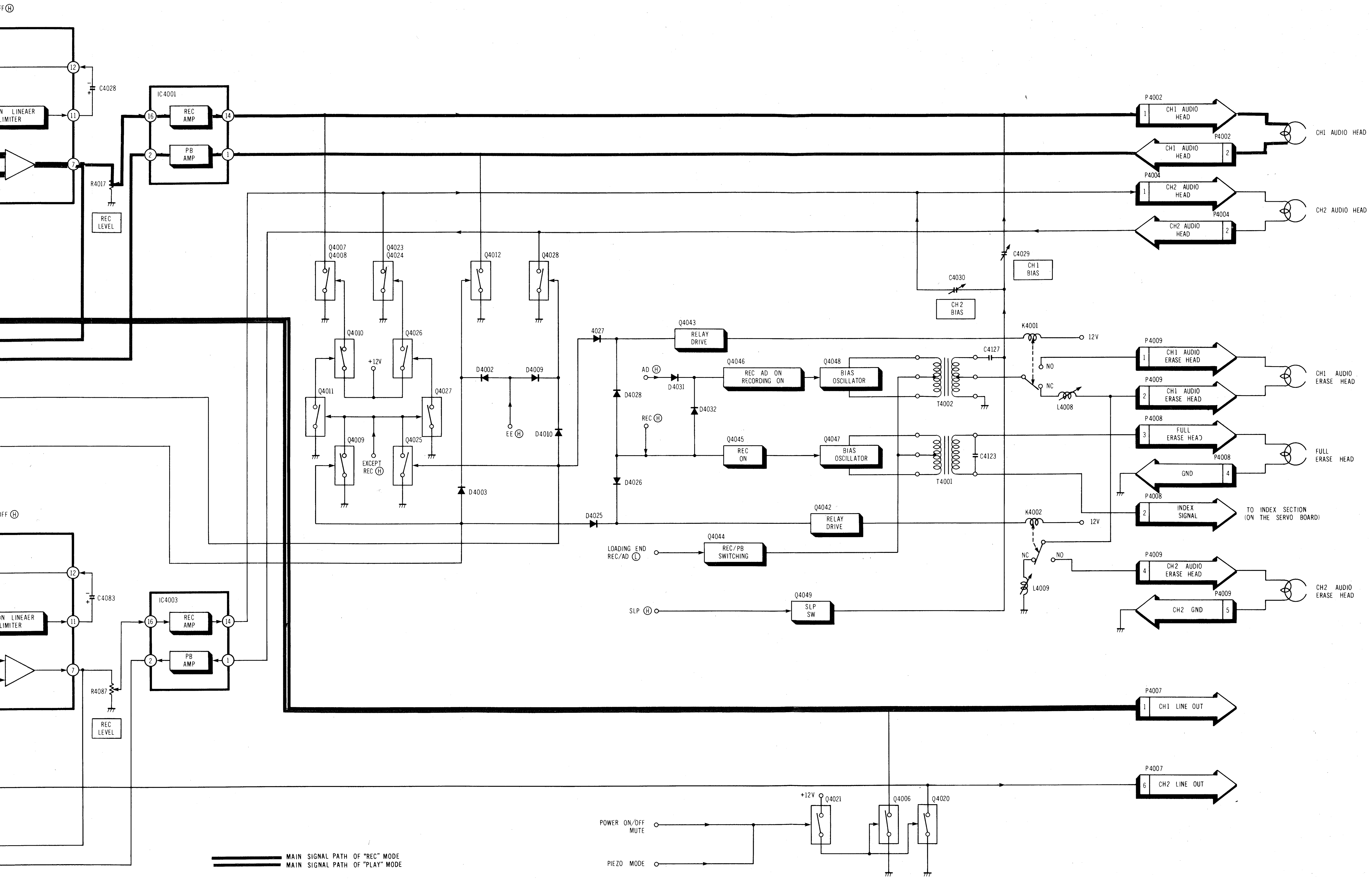
Sub-System Control (2) & Tape Remaining Display C.B.A.

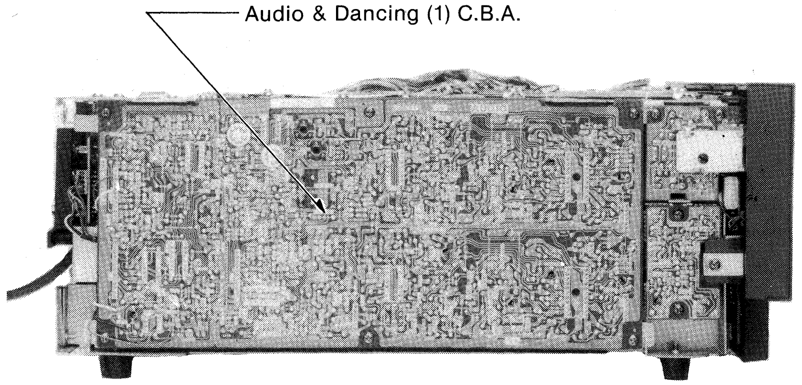
AUDIO BLOCK DIAGRAM



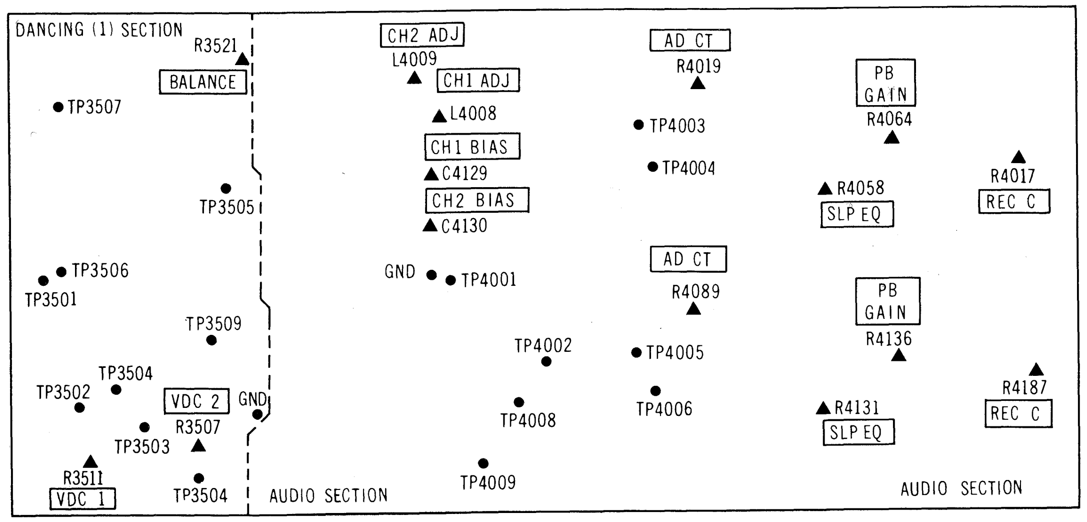
MIC JACK (CH1)
LINE IN
TUNER IN
CAMERA IN
IN PUT SELECTOR
P4001
2
MIC IN
P4001
MIC OUT
4
P4001
6
LINE IN
IC 4001
22
MIC AMP
20
19
AGC
AMP
AMP
REC
PB
REC
PB
AMP
6
11
4
7
8
9
AGC DET
R4064
PB GAIN
SLP Ⓗ
L4003
C4045
PB EQ
R4058
EQ
DOLBY OFF Ⓗ
IC4003
14
AMP
12
C4028
AMP
5
NON LINEAER LIMITER
11
6
L4002
DOLBY FILTER
2
AMP
7
1
4
C4019
C4020
R4025
HPF
3
R4017
REC LEVEL
IC4001
16
REC AMP
14
2
PB AMP
1
P4005
12
CH1 AD Ⓗ
Q4039, 41
AFTER RECORDING SWITCHING CH1 (L)
P4005
11
CH2 AD Ⓗ
Q 4038, 40
AFTER RECORDING SWITCHING CH2 (R)
MIC JACK (CH2)
LINE IN
TUNER IN
CAMERA IN
IN PUT SELECTOR
P4003
2
MIC IN
P4003
MIC OUT
4
P4003
6
LINE IN
IC 4002
22
MIC AMP
20
19
AGC
AMP
AMP
REC
PB
REC
PB
AMP
6
11
4
7
8
9
AGC DET
R4136
PB GAIN
SLP Ⓗ
L4006
C4097
PB EQ
R4131
EQ
DOLBY OFF Ⓗ
IC4004
14
AMP
12
C4083
AMP
5
NON LINEAER LIMITER
11
6
L4005
DOLBY FILTER
2
AMP
7
1
4
C4074
C4075
R4095
HPF
3
R4087
REC LEVEL
IC4003
16
REC AMP
14
2
PB AMP
1


FF Ⓗ
C4028
IC4001
REC AMP
PB AMP
N LINEAER LIMITER
R4017
REC LEVEL
P4002
CH1 AUDIO HEAD
CH1 AUDIO HEAD
P4004
CH2 AUDIO HEAD
CH2 AUDIO HEAD
CH2 AUDIO HEAD
Q4007 Q4008
Q4023 Q4024
Q4012
Q4028
C4029
CH1 BIAS
C4030
CH2 BIAS
Q4010
Q4026
+12V
Q4011
Q4027
Q4009
Q4025
EXCEPT REC Ⓗ
D4002
D4009
EE Ⓗ
D4010
D4003
4027
D4028
D4026
D4025
Q4043
RELAY DRIVE
AD Ⓗ
D4031
D4032
REC Ⓗ
Q4046
REC AD ON RECORDING ON
Q4048
BIAS OSCILLATOR
T4002
C4127
K4001
12V
NO
NC
L4008
P4009
CH1 AUDIO ERASE HEAD
CH1 AUDIO ERASE HEAD
Q4045
REC ON
Q4047
BIAS OSCILLATOR
T4001
C4123
P4008
FULL ERASE HEAD
GND
FULL ERASE HEAD
INDEX SIGNAL
TO INDEX SECTION (ON THE SERVO BOARD)
Q4042
RELAY DRIVE
K4002
Q4044
REC/PB SWITCHING
LOADING END REC/AD Ⓛ
L4009
CH2 AUDIO ERASE HEAD
CH2 GND
CH2 AUDIO ERASE HEAD
Q4049
SLP SW
SLP Ⓗ
FF Ⓗ
C4083
IC4003
R4087
P4007
CH1 LINE OUT
CH2 LINE OUT
+12V
Q4021
Q4006
Q4020
POWER ON/OFF MUTE
PIEZO MODE
MAIN SIGNAL PATH OF "REC" MODE
MAIN SIGNAL PATH OF "PLAY" MODE

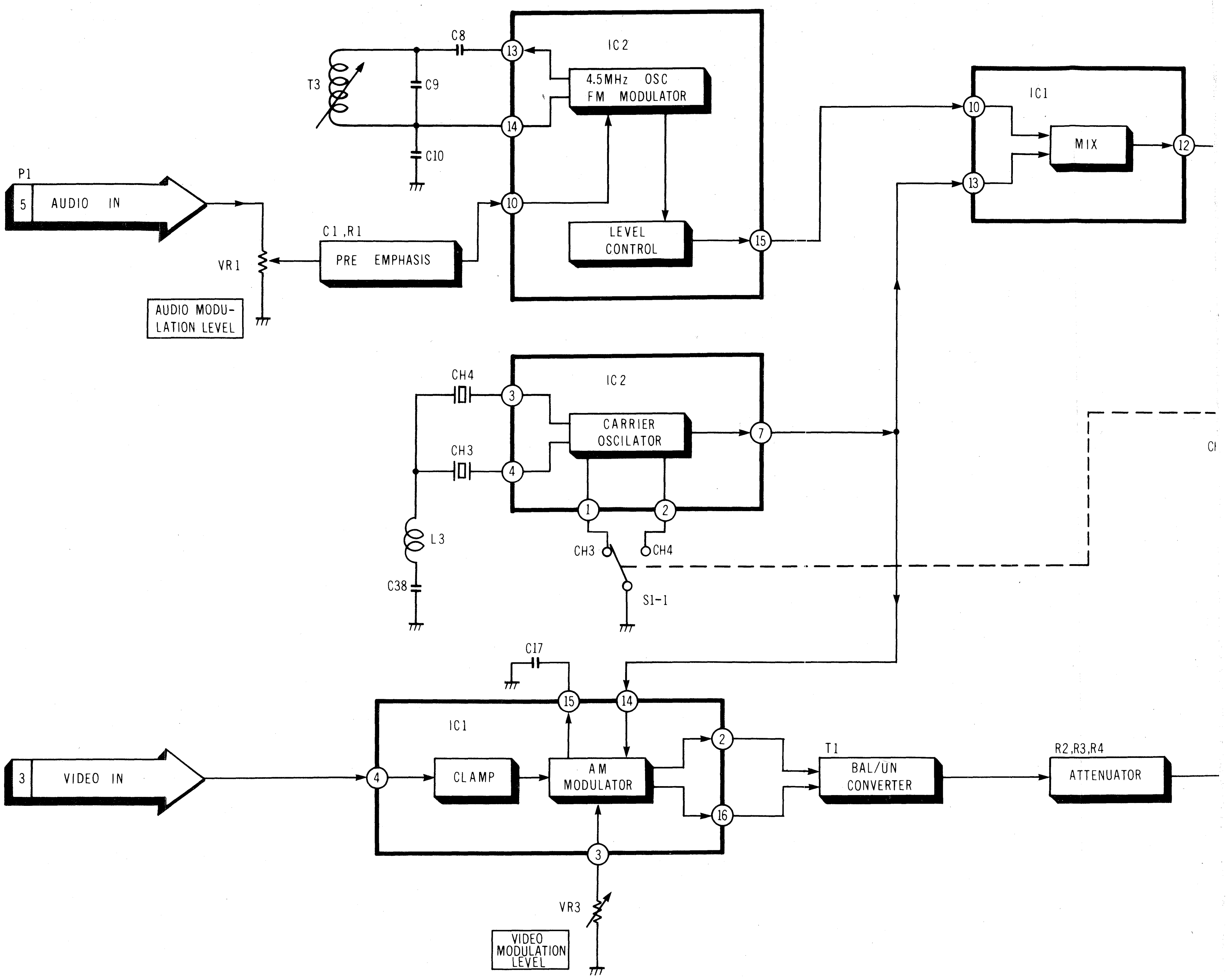

FF H
C4028
IC4001
N LINEAER
LIMITER
REC AMP
PB AMP
R4017
REC LEVEL
P4002
CH1 AUDIO HEAD
CH1 AUDIO HEAD
P4004
CH2 AUDIO HEAD
CH2 AUDIO HEAD
Q4007
Q4008
Q4023
Q4024
Q4012
Q4028
C4029
CH1 BIAS
C4030
CH2 BIAS
Q4010
Q4026
+12V
Q4011
Q4027
Q4009
Q4025
EXCEPT REC H
D4002
D4009
EE H
D4010
D4003
4027
D4028
D4026
D4025
Q4043
RELAY DRIVE
AD H
D4031
D4032
Q4046
REC AD ON RECORDING ON
Q4048
BIAS OSCILLATOR
C4127
T4002
REC H
Q4045
REC ON
Q4047
BIAS OSCILLATOR
C4123
T4001
K4001
12V
NO
NC
L4008
P4009
CH1 AUDIO ERASE HEAD
CH1 AUDIO ERASE HEAD
P4008
FULL ERASE HEAD
FULL ERASE HEAD
GND
INDEX SIGNAL
TO INDEX SECTION (ON THE SERVO BOARD)
Q4042
RELAY DRIVE
K4002
L4009
Q4044
REC/PB SWITCHING
LOADING END REC/AD L
CH2 AUDIO ERASE HEAD
CH2 GND
CH2 AUDIO ERASE HEAD
Q4049
SLP SW
SLP H
FF H
C4083
IC4003
N LINEAER
LIMITER
R4087
REC LEVEL
P4007
CH1 LINE OUT
CH2 LINE OUT
+12V
Q4021
Q4006
Q4020
POWER ON/OFF MUTE
PIEZO MODE
MAIN SIGNAL PATH OF "REC" MODE
MAIN SIGNAL PATH OF "PLAY" MODE



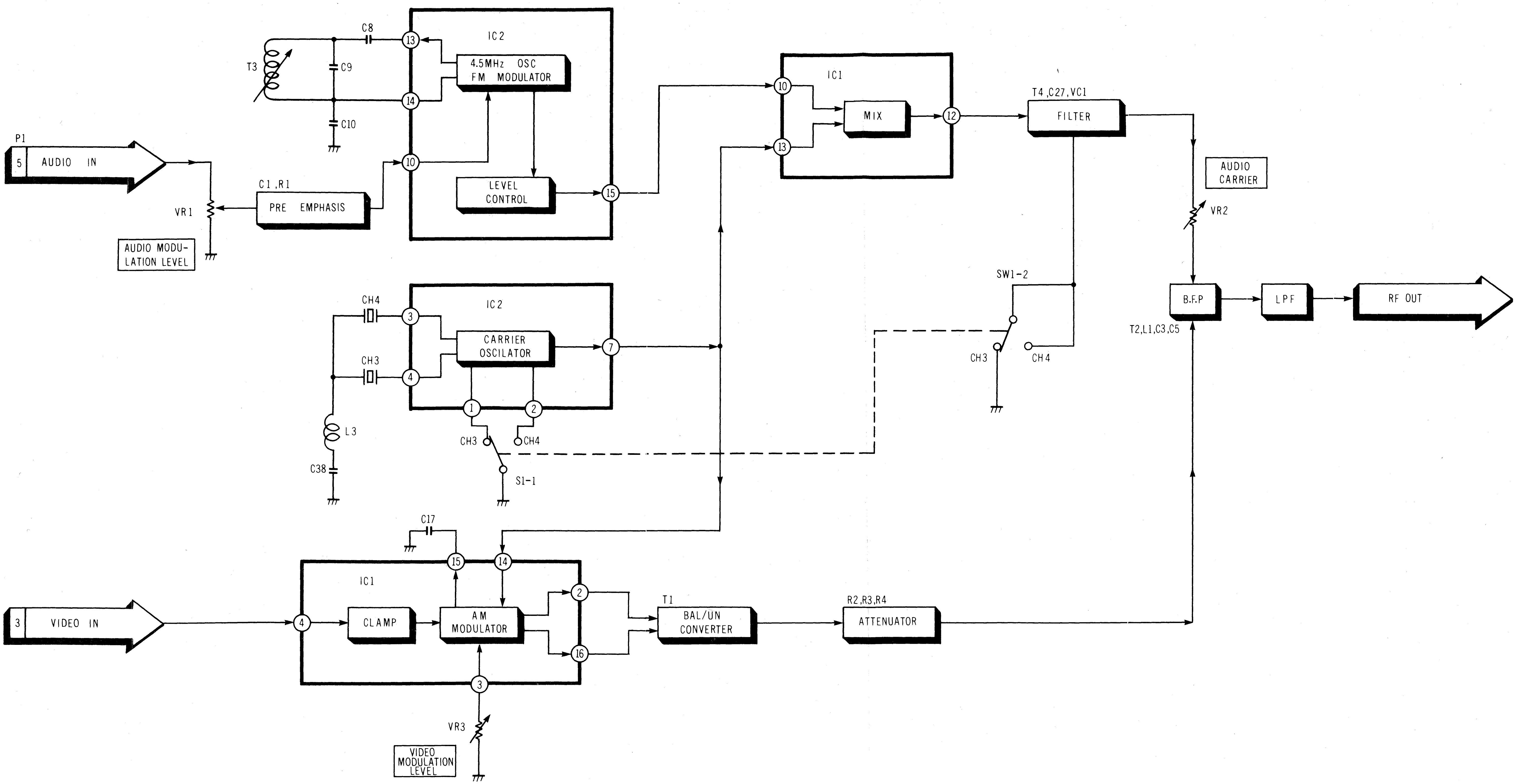
Audio & Dancing (1) C.B.A.


DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
AUDIO SECTION
CH2 ADJ
L4009
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
GND
TP4001
TP4002
TP4008
TP4009
AD CT
R4019
TP4003
TP4004
AD CT
R4089
TP4005
TP4006
PB GAIN
R4064
R4058
SLP EQ
PB GAIN
R4136
R4131
SLP EQ
R4017
REC C
R4187
REC C
AUDIO SECTION

RF CONVERTER BLOCK DIAGRAM


P1
5 AUDIO IN
VR1
AUDIO MODULATION LEVEL
C1, R1
PRE EMPHASIS
T3
C8
C9
C10
IC2
4.5MHz OSC
FM MODULATOR
LEVEL CONTROL
13
14
10
15
IC1
MIX
10
13
12
CH4
CH3
IC2
CARRIER OSCILATOR
3
4
7
1
2
L3
C38
CH3
CH4
S1-1
CH
C17
3 VIDEO IN
IC1
CLAMP
AM MODULATOR
15
14
4
2
16
3
VR3
VIDEO MODULATION LEVEL
T1
BAL/UN CONVERTER
R2,R3,R4
ATTENUATOR

RF CONVERTER BLOCK DIAGRAM


C8
IC2
T3
C9
13
14
4.5MHz OSC
FM MODULATOR
C10
P1
5
AUDIO IN
10
C1,R1
PRE EMPHASIS
LEVEL
CONTROL
15
VR1
AUDIO MODU-
LATION LEVEL
IC1
10
13
MIX
12
T4,C27,VC1
FILTER
AUDIO
CARRIER
VR2
SW1-2
CH3
CH4
B.F.P
LPF
RF OUT
T2,L1,C3,C5
CH4
IC2
3
CARRIER
OSCILATOR
7
CH3
4
1
2
L3
CH3
CH4
S1-1
C38
C17
15
14
IC1
2
3
VIDEO IN
4
CLAMP
AM
MODULATOR
16
3
T1
BAL/UN
CONVERTER
R2,R3,R4
ATTENUATOR
VR3
VIDEO
MODULATION
LEVEL

ORDER NO. VRD-8203-059

Service Manual

Video Cassette Recorder

Panasonic
Omnivision II VHS

NV-8950

Vol. 4

Schematic Diagrams
Circuit Board Diagrams

SPECIFICATIONS

Power Source:		120V AC, 60Hz
Power Consumption:		Approx. 77 watts
Television System:		EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:		2 rotary heads, helical scanning system
	Luminance:	FM azimuth recording
	Color signal:	converted subcarrier phase shift recording
Audio Track:		2 tracks
Tape Format:		Tape width 1/2 inch (12.7mm), high density tape
Tape Speed:		SP/1-5/16 i.p.s. (33.35mm/s), SLP/7/16 i.p.s. (11.12mm/s)
Record/Playback Time:		360 min. with NV-T120 used in SLP mode
FF/REW Time:		Less than 6 min. with NV-T120
Heads:	Video:	4 rotary heads
	Audio/Control:	1 stationary head
	Erase:	1 full track erase 2 audio track erase for audio dubbing
Input Level:	Video:	Tuner Connector 1.0Vp-p, 75Ω unbalanced Camera Input Terminal 1.0Vp-p, 75Ω unbalanced VIDEO IN connector (BNC) 1.0Vp-p, 75Ω unbalanced
	Audio:	Tuner Connector −16dB, 5kΩ unbalanced Camera Input Terminal −20dB, 50kΩ unbalanced MIC IN jack × 2 −70dB, 47kΩ unbalanced LINE IN jack (RCA) × 2 −20dB, 50kΩ unbalanced

Output Level:	Video:	VIDEO OUT connector (BNC) 1.0Vp-p, 75Ω unbalanced
	Audio:	LINE OUT jack (RCA) × 2 −9dB, 1kΩ less unbalanced AUDIO MONITOR OUT jack (RCA) −9dB, 1kΩ less unbalanced
	RF Modulated:	Channel 3 or 4 67dBμ (open voltage), 75Ω unbalanced
Video Horizontal Resolution: (on monoscope test pattern)		Color/Monochrome: more than 240 lines
Audio Frequency Response:		50Hz ~ 10kHz in SP mode
Signal-to-Noise Ratio:	Video:	better than 45dB (Rohde & Schwarz noise meter)
	Audio:	better than 48dB (Dolby NR-IN)
Operating Temperature:		41°F ~ 104°F (5°C ~ 40°C)
Operating Humidity:		35% ~ 80%
Weight:		36.3 lbs. (16.5kg)
Dimensions:		17-3/4″(W) × 6-5/8″(H) × 16-13/16″(D) 450(W) × 168(H) × 426(D) mm

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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& TAPE REMAINING TIME DISPLAY CIRCUIT 4- 8
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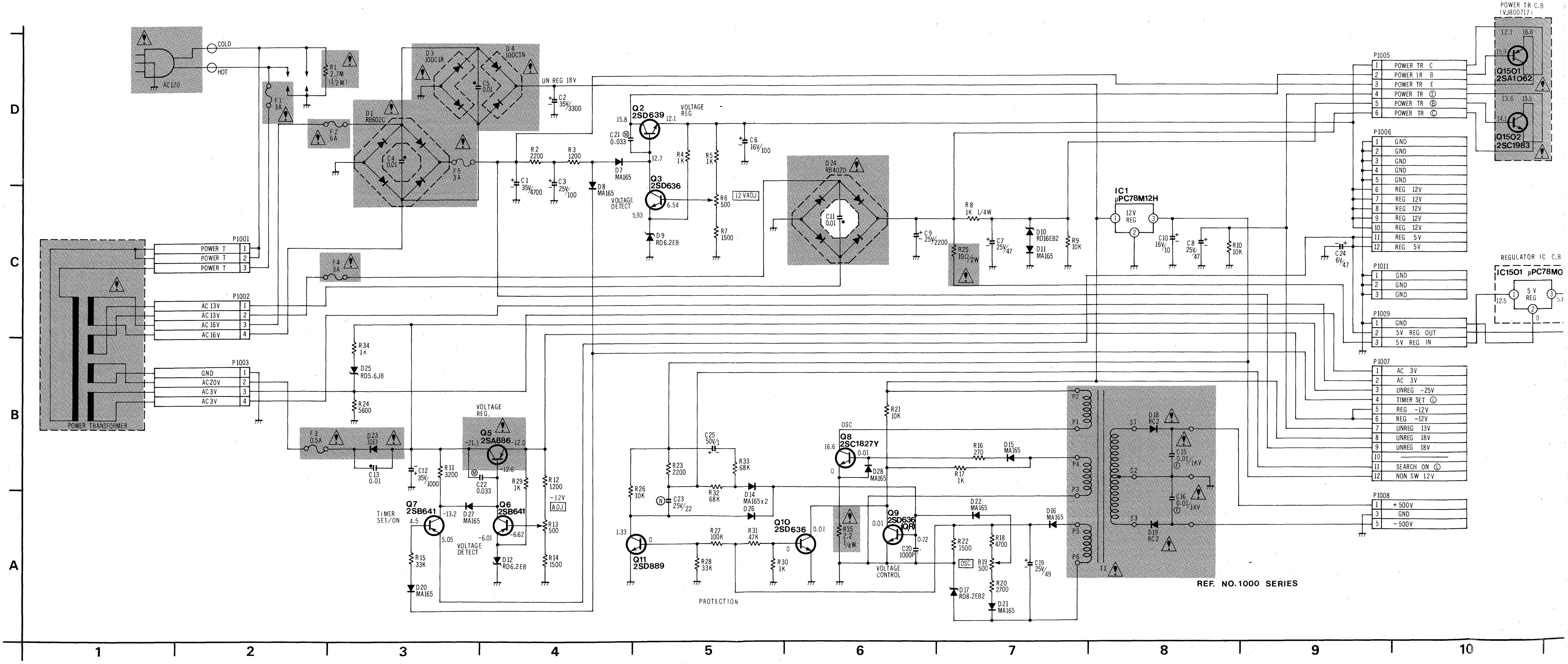
P1006 (Power Supply C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P6009-5 System Control C.B.A
2	GND	P2001-4 Servo C.B.A
3	GND	P3002-1 Luminance & Chrominance C.B.A
4	GND	P2803-2 Piezo Drive C.B.A
5	GND	P1508-1 Tuner Adaptor
6	REG 12V	P6009-2 System Control C.B.A
7	REG 12V	P2001-1 Servo C.B.A
8	REG 12V	P3001-2 Luminance & Chrominance C.B.A
9	REG 12V	P4006-1 Audio & V-Dancing COMP (I) C.B.A
10	REG 12V	P2803-3 Piezo Drive C.B.A
11	REG 5V	P6009-1 System Control C.B.A
12	REG 5V	P2304-1 Search & Sub System Control (I) C.B.A

P1007 (Power Supply C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	AC 2.4V	P6703-2 Remaining Tape Time Display Section
2	AC 2.4V	P6703-1 Remaining Tape Time Display Section
3	UNREG −25V	P6703-3 Remaining Tape Time Display Section
4	Timer Set	P6009-3 System Control C.B.A
5	REG −12V	P2001-2 Servo C.B.A
6	REG −12V	P2803-1 Piezo Drive C.B.A
7	UNREG 13V (Camera)	P1553-1 Input Jack C.B.A
8	UNREG 18V	P2001-6 Servo C.B.A
9	UNREG (Tuner)	P1507-4 Tuner Adaptor
10	—	— —
11	Search On	P2304-3 Sub System Control (I) C.B.A
12	Non SW 12V	P6009-4 System Control C.B.A

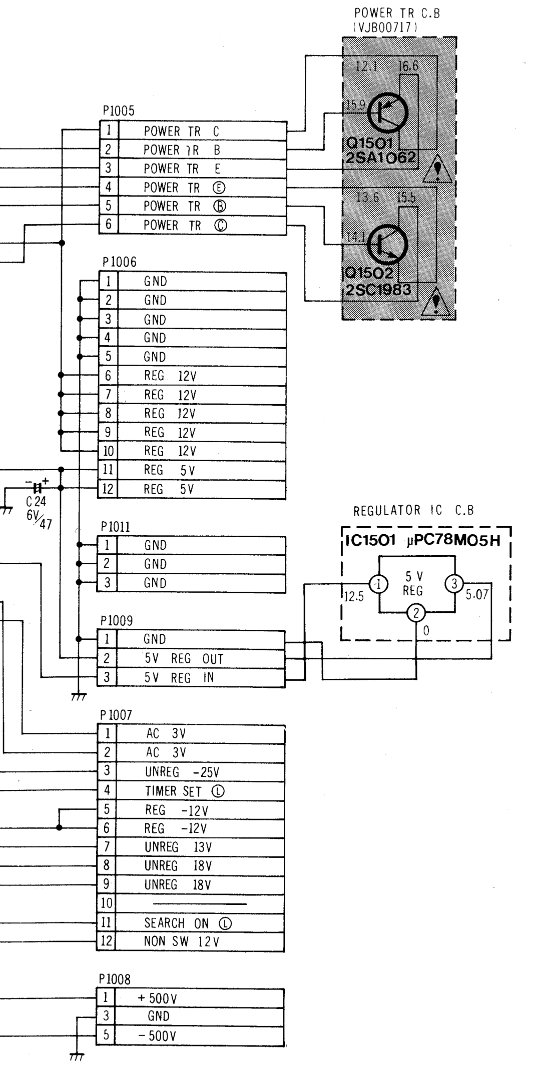
P1008 (Power Supply C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	+500V	P2801-5 Piezo Drive C.B.A
2	—	— —
3	GND	P2801-3 Piezo Drive C.B.A
4	—	— —
5	−500V	P2801-1 Piezo Drive C.B.A

P1011 (Power Supply C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P1553-2 · Input Jack C.B.A
2	GND	P2001-5 Servo C.B.A
3	GND	P2304-2 Search & Sub System Control (I) C.B.A

POWER SUPPLY SCHEMATIC DIAGRAM

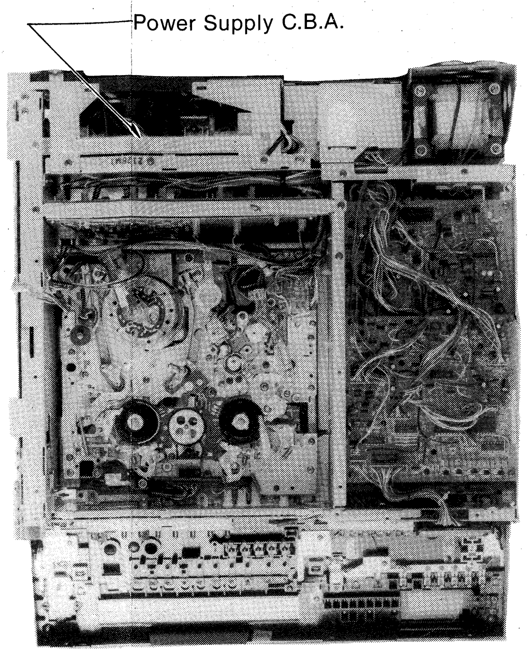

D
C
B
A
1
2
3
4
5
6
7
8
9
10
AC120
COLD
HOT
R1 2.7M (1/2W)
F1 3A
F2 6A
F3 0.5A
F4 3A
F5 3A
D1 RB602C
D3 10DC1R
D4 10DC1N
C4 0.01
C5 0.01
UN REG 18V
C2 35V/3300
C1 35V/4700
C3 25V/100
R2 2200
R3 1200
D7 MA165
D8 MA165
Q2 2SD639
VOLTAGE REG
15.8
12.1
12.7
C21 Ⓜ 0.033
Q3 2SD636
VOLTAGE DETECT
5.93
6.54
R4 1K
R5 1K
R6 500
12 VADJ
R7 1500
C6 16V/100
D9 RD6.2EB
POWER TRANSFORMER
P1001
POWER T
POWER T
POWER T
P1002
AC 13V
AC 13V
AC 16V
AC 16V
P1003
GND
AC20V
AC3V
AC3V
R34 1K
D25 RD5.6JB
R24 5600
D23 10E1
C13 0.01
C12 35V/1000
R11 3200
VOLTAGE REG.
Q5 2SA886
-21.3
-12.0
-12.6
C22 0.033
R29 1K
R12 1200
-12V ADJ
R13 500
R14 1500
Q7 2SB641
TIMER SET/ON
4.5
-13.2
5.05
D27 MA165
Q6 2SB641
-6.01
-6.62
VOLTAGE DETECT
D12 RD6.2EB
R15 33K
D20 MA165
D24 RB402D
C11 0.01
C9 25V/2200
R25 10Ω/2W
R8 1K 1/4W
C7 25V/47
D10 RD16EB2
D11 MA165
R9 10K
IC1 μPC78M12H
12V REG
C10 16V/10
C8 25V/47
R10 10K
C24 6V/47
R23 2200
C25 50V/1
R33 68K
R26 10K
Ⓝ C23 25V/22
R32 68K
D14 MA165x2
D26
1.33
Q11 2SD889
R27 100K
R31 47K
R28 33K
R30 1K
Q10 2SD636
0.01
PROTECTION
R21 10K
OSC
Q8 2SC1827Y
16.6
0.01
D28 MA165
R35 2.2 1/4W
Q9 2SD636 (QR)
0.72
C20 1000P
VOLTAGE CONTROL
R16 270
D15 MA165
R17 1K
D22 MA165
R22 1500
OSC
R19 500
R18 4700
R20 2700
D17 RD8.2EB2
D21 MA165
C19 25V/49
D16 MA165
T1
P1
P2
P3
P4
P5
P6
S1
S2
S3
D18 RC2
D19 RC2
C15 0.01/1KV
C16 0.01/1KV
POWER TR C.B (VJB00717)
12.1
16.6
15.9
Q1501 2SA1062
13.6
15.5
14.1
Q1502 2SC1983
P1005
POWER TR C
POWER TR B
POWER TR E
POWER TR Ⓔ
POWER TR Ⓑ
POWER TR Ⓒ
P1006
GND
REG 12V
REG 5V
P1011
GND
P1009
GND
5V REG OUT
5V REG IN
REGULATOR IC C.B
IC1501 μPC78M0
5 V REG
12.5
0
P1007
AC 3V
UNREG -25V
TIMER SET Ⓛ
REG -12V
UNREG 13V
UNREG 18V
SEARCH ON Ⓛ
NON SW 12V
P1008
+500V
GND
-500V

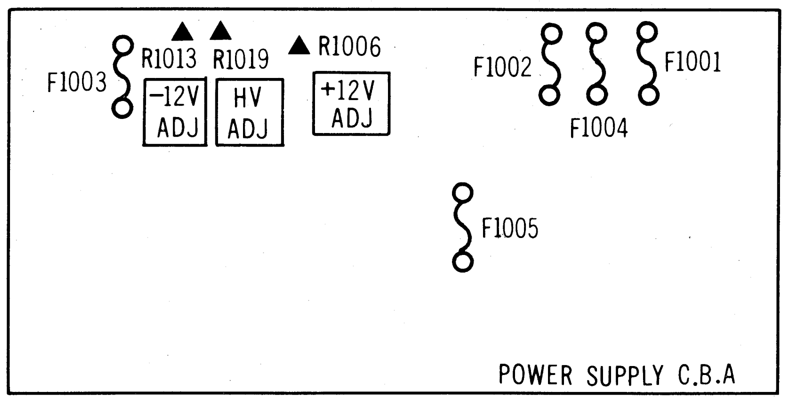
REF. NO.1000 SERIES

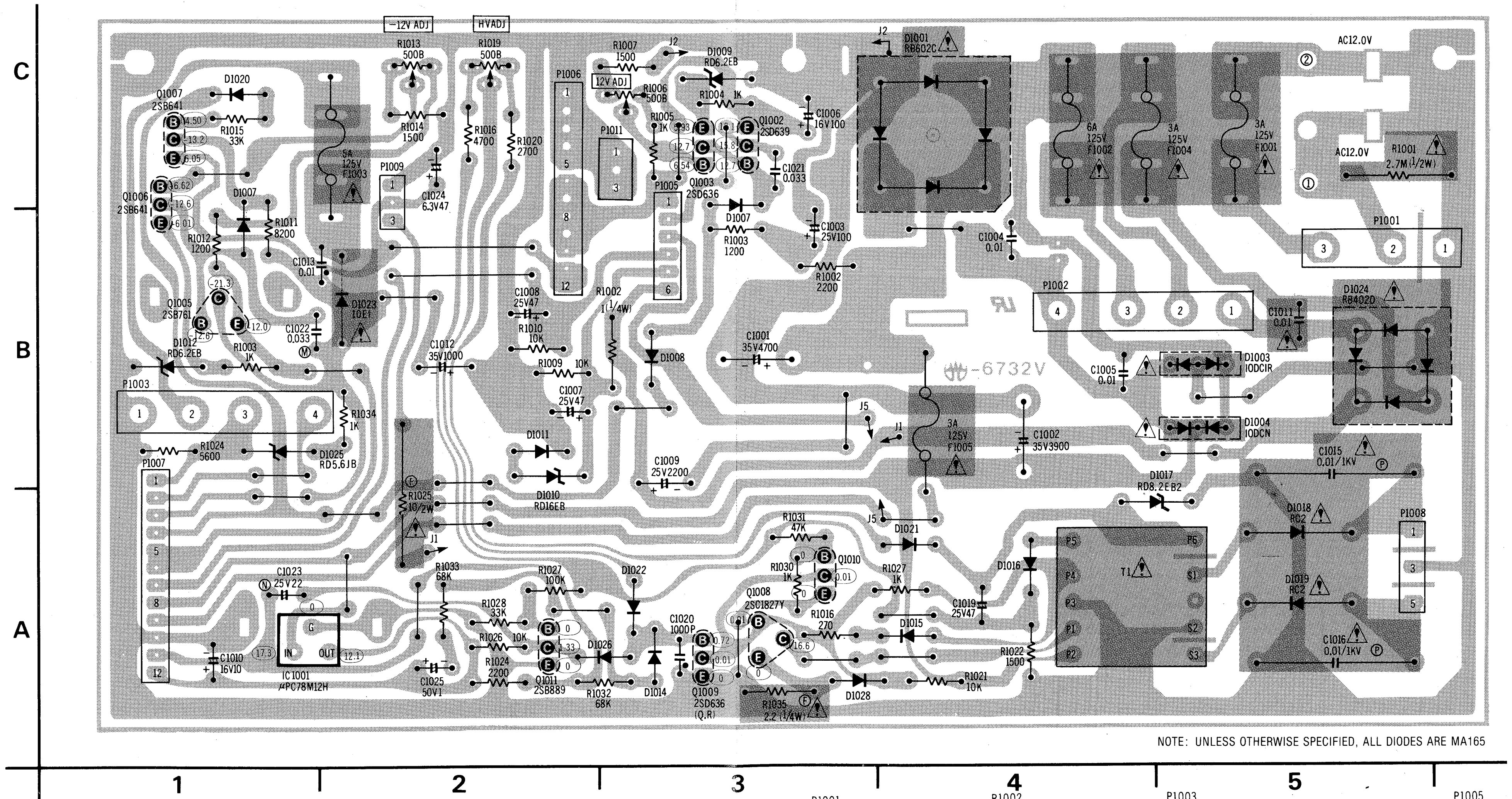

POWER TR C.B
(VJB00717)
Q1501
2SA1062
Q1502
2SC1983
P1005
POWER TR C
POWER TR B
POWER TR E
POWER TR Ⓔ
POWER TR Ⓑ
POWER TR Ⓒ
P1006
GND
REG 12V
REG 5V
P1011
GND
P1009
GND
5V REG OUT
5V REG IN
REGULATOR IC C.B
IC1501 μPC78M05H
5 V
REG
P1007
AC 3V
UNREG -25V
TIMER SET Ⓛ
REG -12V
UNREG 13V
UNREG 18V
SEARCH ON Ⓛ
NON SW 12V
P1008
+500V
GND
-500V
C24
6V47

Power Supply C.B.A.	
Q1002	C-3
Q1003	C-3
Q1005	B-1
Q1006	C-1
Q1007	C-1
Q1008	A-3
Q1009	A-3
Q1010	A-3
Q1011	A-2

POWER SUPPLY C.B.A.
(VEP01104A)


Power Supply C.B.A.


F1003
▲R1013
-12V ADJ
▲R1019
HV ADJ
▲R1006
+12V ADJ
F1002
F1004
F1001
F1005
POWER SUPPLY C.B.A


C
B
A
1
2
3
4
5
-12V ADJ
HVADJ
R1013 500B
R1019 500B
R1007 1500
R1006 500B
D1009 RD6.2EB
D1001 RB602C
AC12.0V
Q1007 2SB641
D1020
R1015 33K
5A 125V F1003
R1014 1500
R1016 4700
R1020 2700
P1006
P1011
Q1002 2SD639
C1006 16V100
6A 125V F1002
3A 125V F1004
3A 125V F1001
R1001 2.7M(1/2W)
Q1006 2SB641
D1007
R1011 8200
R1012 1200
P1009
C1024 6.3V47
P1005
Q1003 2SD636
R1003 1200
C1003 25V100
C1004 0.01
P1001
C1013 0.01
D1022 10E1
C1008 25V47
R1002 1(1/4W)
R1010 10K
R1002 2200
P1002
D1024 RB402D
Q1005 2SB761
D1012 RD6.2EB
R1003 1K
C1022 0.033
C1012 35V1000
R1009 10K
D1008
C1001 35V4700
C1011 0.01
-6732V
C1005 0.01
D1003 10DC1R
C1007 25V47
P1003
R1034 1K
D1011
3A 125V F1005
D1004 10DCN
R1024 5600
D1025 RD5.6JB
C1002 35V3900
C1015 0.01/1KV
P1007
D1010 RD16EB
C1009 25V2200
D1017 RD8.2EB2
R1025 10/2W
J1
R1031 47K
D1021
D1018 RC2
P1008
Q1010
R1033 68K
R1027 100K
D1022
R1030 1K
R1027 1K
D1016
T1
C1023 25V22
R1028 33K
Q1008 2SC1827Y
C1019 25V47
D1019 RC2
R1026 10K
C1020 1000P
R1016 270
D1015
C1016 0.01/1KV
C1010 16V10
IC1001 μPC78M12H
C1025 50V1
R1024 2200
Q1011 2SB889
D1026
R1032 68K
D1014
Q1009 2SD636 (Q.R)
R1035 2.2(1/4W)
D1028
R1022 1500
R1021 10K

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

P1006

P6009 – 5	1	GND
P2001 – 4	2	GND
P3002 – 1	3	GND
P2803 – 2	4	GND
P1508 – 1	5	GND
P6009 – 2	6	REG 12V
P2001 – 1	7	REG 12V
P3002 – 2	8	REG 12V
P4006 – 1	9	REG 12V
P2803 – 3	10	REG 12V
P6009 – 1	11	REG 5V
P2304 – 1	12	REG 5V

P1007

P6703 – 2	1	AC 2.4V
P6703 – 1	2	AC 2.4V
P6703 – 3	3	UNREG –25V
P6009 – 3	4	TIMER SET
P2001 – 2	5	REG –12V
P2803 – 1	6	REG –12V
P1553 – 1	7	UNREG 13V (CAMERA)
P2001 – 6	8	UNREG 18V
P1507 – 4	9	UNREG 18V (TUNER)
	10	————
P2304 – 3	11	SEARCH ON
P6009 – 4	12	NON SW 12V

P1008

+500V	1	P2801 – 5
————	2	
GND	3	P2801 – 3
————	4	
–500V	5	P2801 – 1

P1009

P1510 – 2	1	GND
P1510 – 3	2	5V REG OUT
P1510 – 1	3	UNREG 15V

P1011

GND	1	P1553 – 2
GND	2	P2001 – 5
GND	3	P2304 – 2

P1001

1	POWER T
2	POWER T
3	POWER T

P1002

1	AC 13V
2	AC 13V
3	AC 16V
4	AC 16V

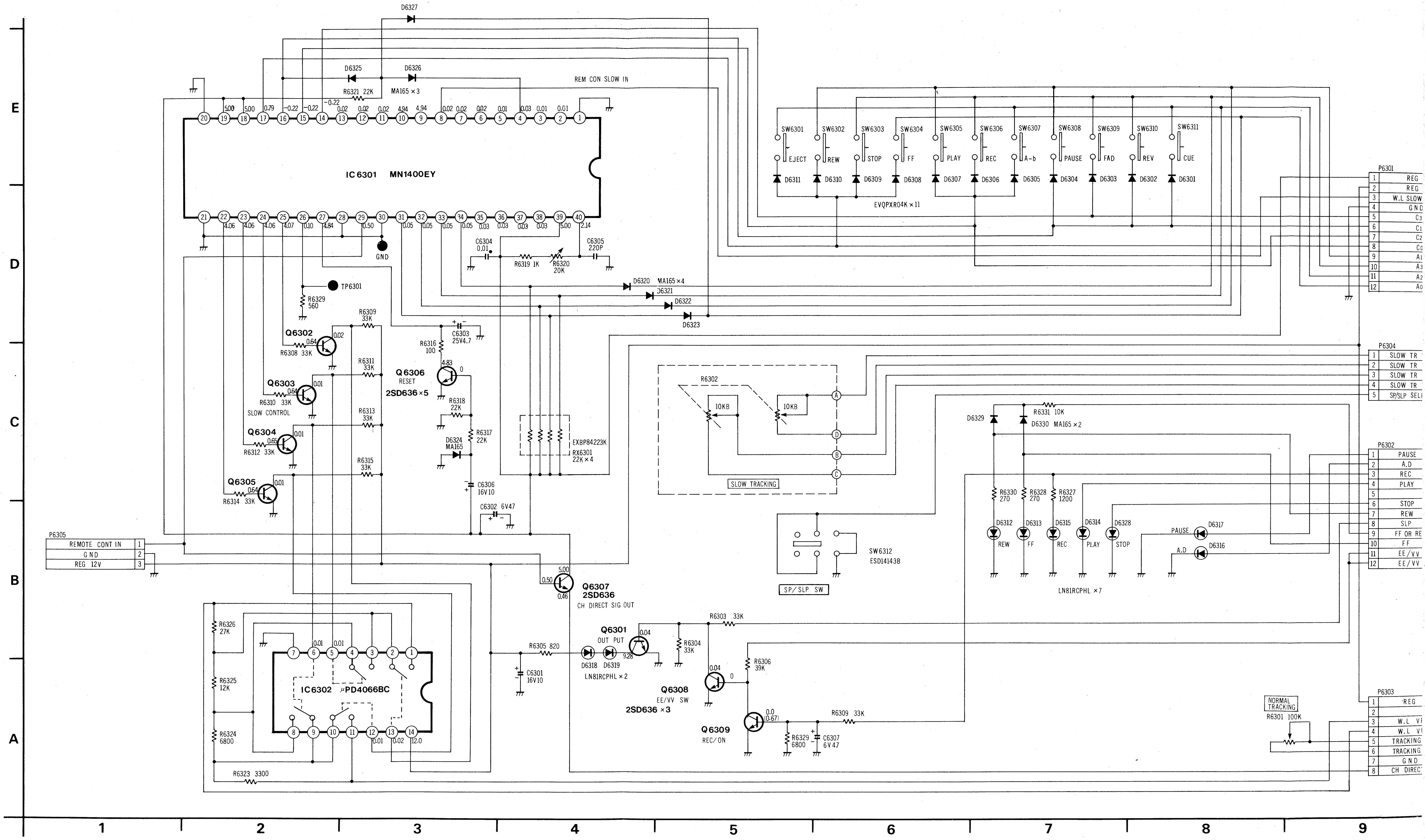
P1003

1	GND
2	AC20V
3	AC2.4V
4	AC2.4V

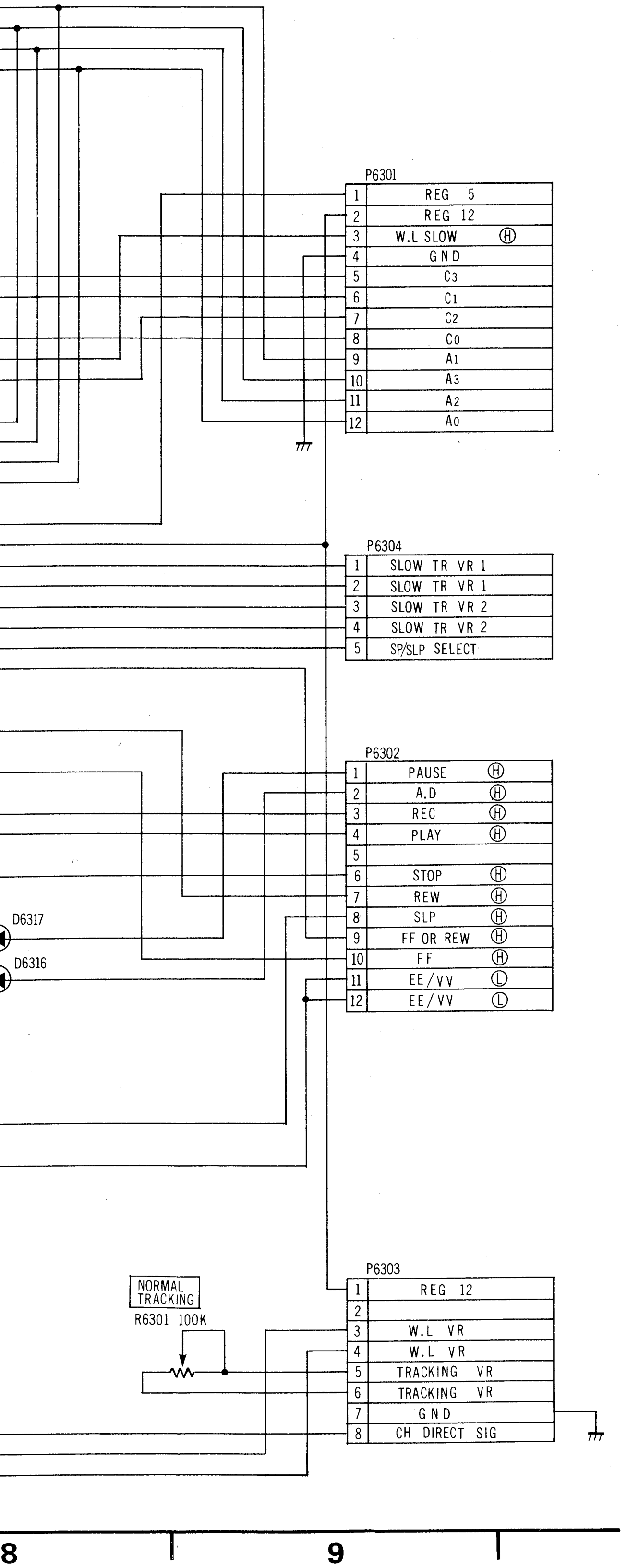
P1005

12V C	1
12V B	2
12V E	3
CAMERA E	4
CAMERA B	5
CAMERA C	6

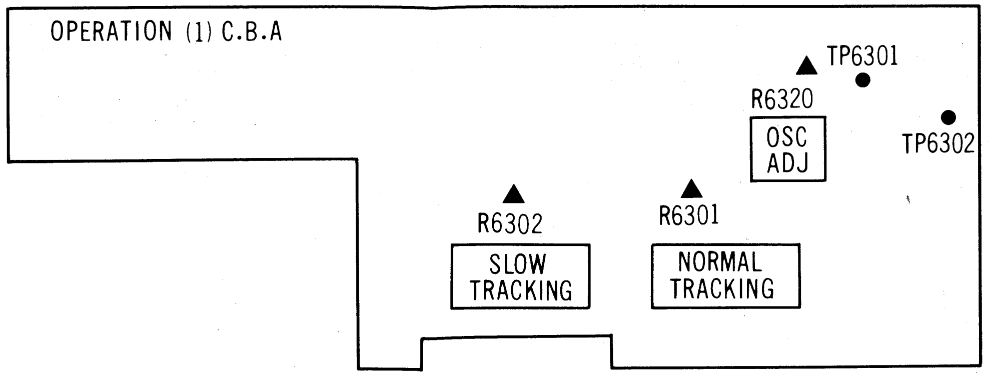
OPERATION (1) SCHEMATIC DIAGRAM

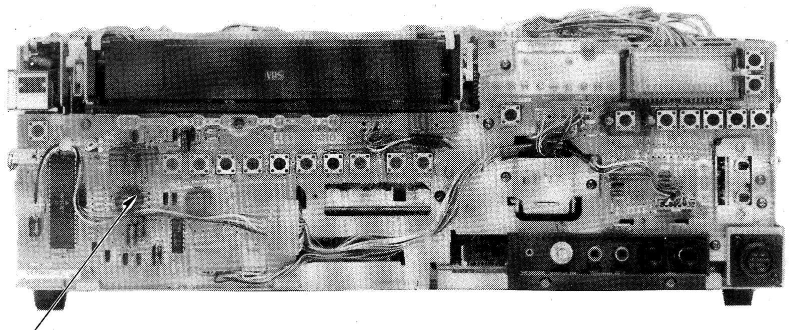


E
D
C
B
A
1
2
3
4
5
6
7
8
9
IC6301 MN1400EY
IC6302 μPD4066BC
D6327
D6325
D6326
R6321 22K
MA165 × 3
REM CON SLOW IN
GND
TP6301
R6329 560
C6304 0.01
R6319 1K
R6320 20K
C6305 220P
D6320 MA165×4
D6321
D6322
D6323
Q6302
R6308 33K
Q6303
R6310 33K
SLOW CONTROL
Q6304
R6312 33K
Q6305
R6314 33K
R6309 33K
R6311 33K
R6313 33K
R6315 33K
R6316 100
C6303 25V4.7
Q6306
RESET
2SD636×5
R6318 22K
R6317 22K
D6324 MA165
C6306 16V10
C6302 6V47
EXBP84223K
RX6301 22K×4
Q6307
2SD636
CH DIRECT SIG OUT
P6305
REMOTE CONT IN
GND
REG 12V
R6326 27K
R6325 12K
R6324 6800
R6323 3300
R6305 820
C6301 16V10
Q6301
OUT PUT
D6318
D6319
LN81RCPHL × 2
R6304 33K
R6303 33K
Q6308
EE/VV SW
2SD636 ×3
R6306 39K
Q6309
REC/ON
R6329 6800
C6307 6V47
R6309 33K
SW6301 EJECT
SW6302 REW
SW6303 STOP
SW6304 FF
SW6305 PLAY
SW6306 REC
SW6307 A-b
SW6308 PAUSE
SW6309 FAD
SW6310 REV
SW6311 CUE
D6311
D6310
D6309
D6308
D6307
D6306
D6305
D6304
D6303
D6302
D6301
EVQPXR04K × 11
P6301
REG
REG
W.L SLOW
GND
C3
C1
C2
C0
A1
A3
A2
A0
P6304
SLOW TR
SLOW TR
SLOW TR
SLOW TR
SP/SLP SELI
R6302
10KB
10KB
SLOW TRACKING
SW6312
ESD14143B
SP/SLP SW
D6329
D6330 MA165 × 2
R6331 10K
R6330 270
R6328 270
R6327 1200
D6312 REW
D6313 FF
D6315 REC
D6314 PLAY
D6328 STOP
PAUSE D6317
A.D D6316
LN81RCPHL ×7
P6302
PAUSE
A.D
REC
PLAY
STOP
REW
SLP
FF OR RE
FF
EE/VV
EE/VV
P6303
REG
W.L V
W.L V
TRACKING
TRACKING
GND
CH DIREC
NORMAL TRACKING
R6301 100K

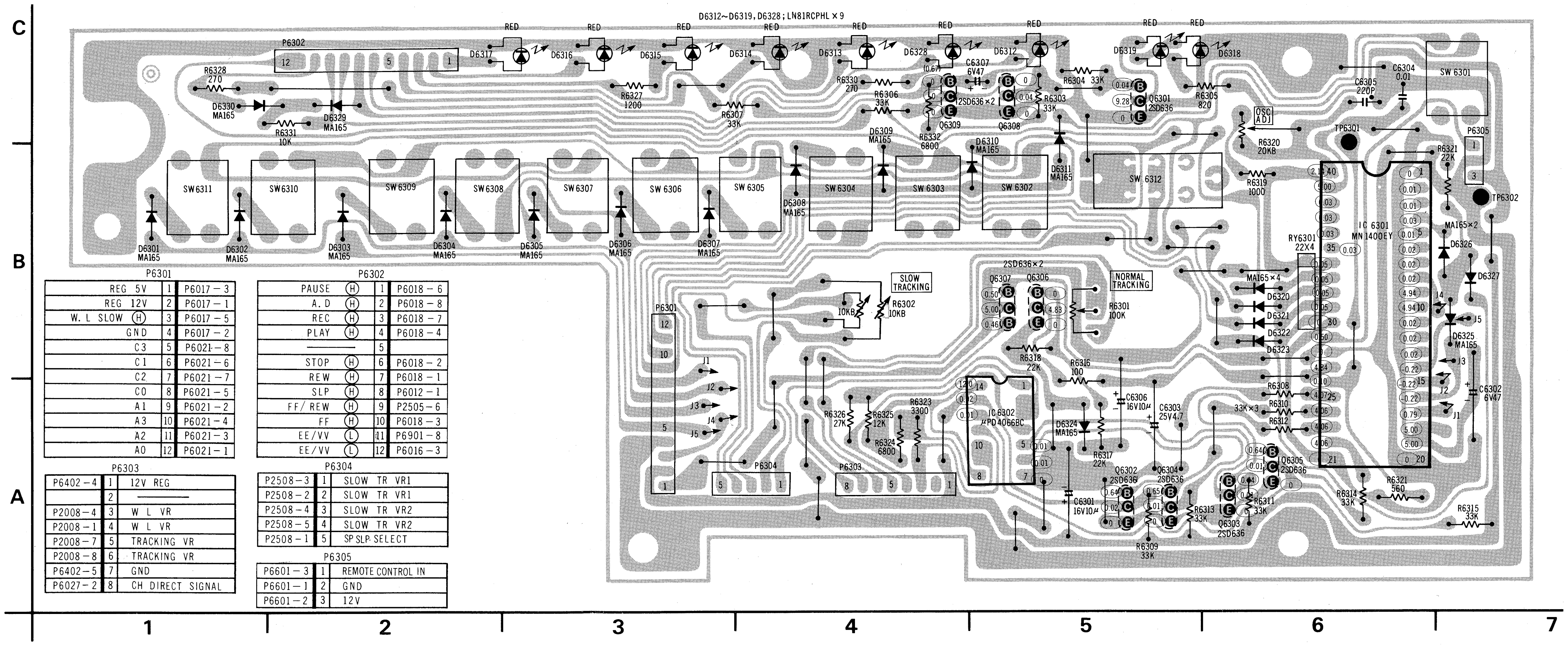

P6301
REG 5
REG 12
W.L SLOW Ⓗ
GND
C3
C1
C2
C0
A1
A3
A2
A0
P6304
SLOW TR VR 1
SLOW TR VR 1
SLOW TR VR 2
SLOW TR VR 2
SP/SLP SELECT
P6302
PAUSE Ⓗ
A.D Ⓗ
REC Ⓗ
PLAY Ⓗ
STOP Ⓗ
REW Ⓗ
SLP Ⓗ
FF OR REW Ⓗ
FF Ⓗ
EE/VV Ⓛ
EE/VV Ⓛ
D6317
D6316
NORMAL TRACKING
R6301 100K
P6303
REG 12
W.L VR
W.L VR
TRACKING VR
TRACKING VR
GND
CH DIRECT SIG
8
9

Operation (1) C.B.A.	
Q6301	C-5
Q6302	A-5
Q6303	A-6
Q6304	A-5
Q6305	A-6
Q6306	B-5
Q6307	B-5
Q6308	C-5
Q6309	C-4
IC6301	B-6
IC6302	A-5


OPERATION (1) C.B.A
TP6301
R6320
OSC ADJ
TP6302
R6302
SLOW TRACKING
R6301
NORMAL TRACKING


Operation (1) C.B.A.

OPERATION (1) C.B.A. (VEP06160A)


C
B
A
1
2
3
4
5
6
7
D6312~D6319, D6328 ; LN81RCPHL × 9
RED
P6302
D6317
D6316
D6315
D6314
D6313
D6328
D6312
D6319
D6318
R6328 270
D6330 MA165
D6329 MA165
R6331 10K
R6327 1200
R6307 33K
R6330 270
R6306 33K
C6307 6V47
2SD636×2
Q6309
Q6308
R6304 33K
R6303 33K
Q6301 2SD636
R6305 820
C6305 220P
C6304 0.01
SW 6301
OSC ADJ
R6320 20KB
TP6301
P6305
R6321 22K
TP6302
SW6311
SW6310
SW6309
SW6308
SW6307
SW6306
SW6305
SW6304
SW6303
SW6302
SW 6312
D6301 MA165
D6302 MA165
D6303 MA165
D6304 MA165
D6305 MA165
D6306 MA165
D6307 MA165
D6308 MA165
D6309 MA165
R6332 6800
D6310 MA165
D6311 MA165
R6319 1000
RY6301 22X4
IC 6301 MN1400EY
MA165×2
D6326
D6327
SLOW TRACKING
R6302 10KB
P6301
2SD636×2
Q6307
Q6306
NORMAL TRACKING
R6301 100K
MA165×4
D6320
D6321
D6322
D6323
D6325 MA165
C6302 6V47
R6318 22K
R6316 100
C6306 16V10
C6303 25V4.7
IC6302 μPD4066BC
D6324 MA165
R6317 22K
R6326 27K
R6325 12K
R6323 3300
R6324 6800
33K×3
R6308
R6310
R6312
P6304
P6303
C6301 16V10
Q6302 2SD636
Q6304 2SD636
Q6305 2SD636
Q6303 2SD636
R6313 33K
R6311 33K
R6309 33K
R6314 33K
R6321 560
R6315 33K

P6301

REG 5V	1	P6017－3
REG 12V	2	P6017－1
W. L SLOW Ⓗ	3	P6017－5
GND	4	P6017－2
C3	5	P6021－8
C1	6	P6021－6
C2	7	P6021－7
C0	8	P6021－5
A1	9	P6021－2
A3	10	P6021－4
A2	11	P6021－3
A0	12	P6021－1

P6302

PAUSE Ⓗ	1	P6018－6
A.D Ⓗ	2	P6018－8
REC Ⓗ	3	P6018－7
PLAY Ⓗ	4	P6018－4
———	5	
STOP Ⓗ	6	P6018－2
REW Ⓗ	7	P6018－1
SLP Ⓗ	8	P6012－1
FF/REW Ⓗ	9	P2505－6
FF Ⓗ	10	P6018－3
EE/VV Ⓛ	11	P6901－8
EE/VV Ⓛ	12	P6016－3

P6303

P6402－4	1	12V REG
	2	———
P2008－4	3	W L VR
P2008－1	4	W L VR
P2008－7	5	TRACKING VR
P2008－8	6	TRACKING VR
P6402－5	7	GND
P6027－2	8	CH DIRECT SIGNAL

P6304

P2508－3	1	SLOW TR VR1
P2508－2	2	SLOW TR VR1
P2508－4	3	SLOW TR VR2
P2508－5	4	SLOW TR VR2
P2508－1	5	SP SLP SELECT

P6305

P6601－3	1	REMOTE CONTROL IN
P6601－1	2	GND
P6601－2	3	12V

OPERATION (2) SCHEMATIC DIAGRAM

P6301 (Operation (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REG 5V	P6017-3 System Control C.B.A
2	REG 25V	P6017-1 System Control C.B.A
3	W.L Slow (H)	P6017-5 System Control C.B.A
4	GND	P6017-2 System Control C.B.A
5	C3	P6021-8 System Control C.B.A
6	C1	P6021-6 System Control C.B.A
7	C2	P6021-7 System Control C.B.A
8	C0	P6021-5 System Control C.B.A
9	A1	P6021-2 System Control C.B.A
10	A3	P6021-4 System Control C.B.A
11	A2	P6021-3 System Control C.B.A
12	A0	P6021-1 System Control C.B.A

P6302 (Operation (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Pause (H)	P6018-6 System Control C.B.A
2	A.D (H)	P6018-8 System Control C.B.A
3	REC (H)	P6018-7 System Control C.B.A
4	Play (H)	P6018-4 System Control C.B.A
5	—	— —
6	Stop (H)	P6018-2 System Control C.B.A
7	REW (H)	P6018-1 System Control C.B.A
8	SLP (H)	P6012-1 System Control C.B.A
9	FF REW (H)	P2505-6 Pattern Generator C.B.A
10	FF (H)	P6018-3 System Control C.B.A
11	EE/VV (L)	P6901-8 Sub Control (II) Section
12	EE/VV (L)	P6016-3 System Control C.B.A

P6303 (Operation (I) C.B.A)

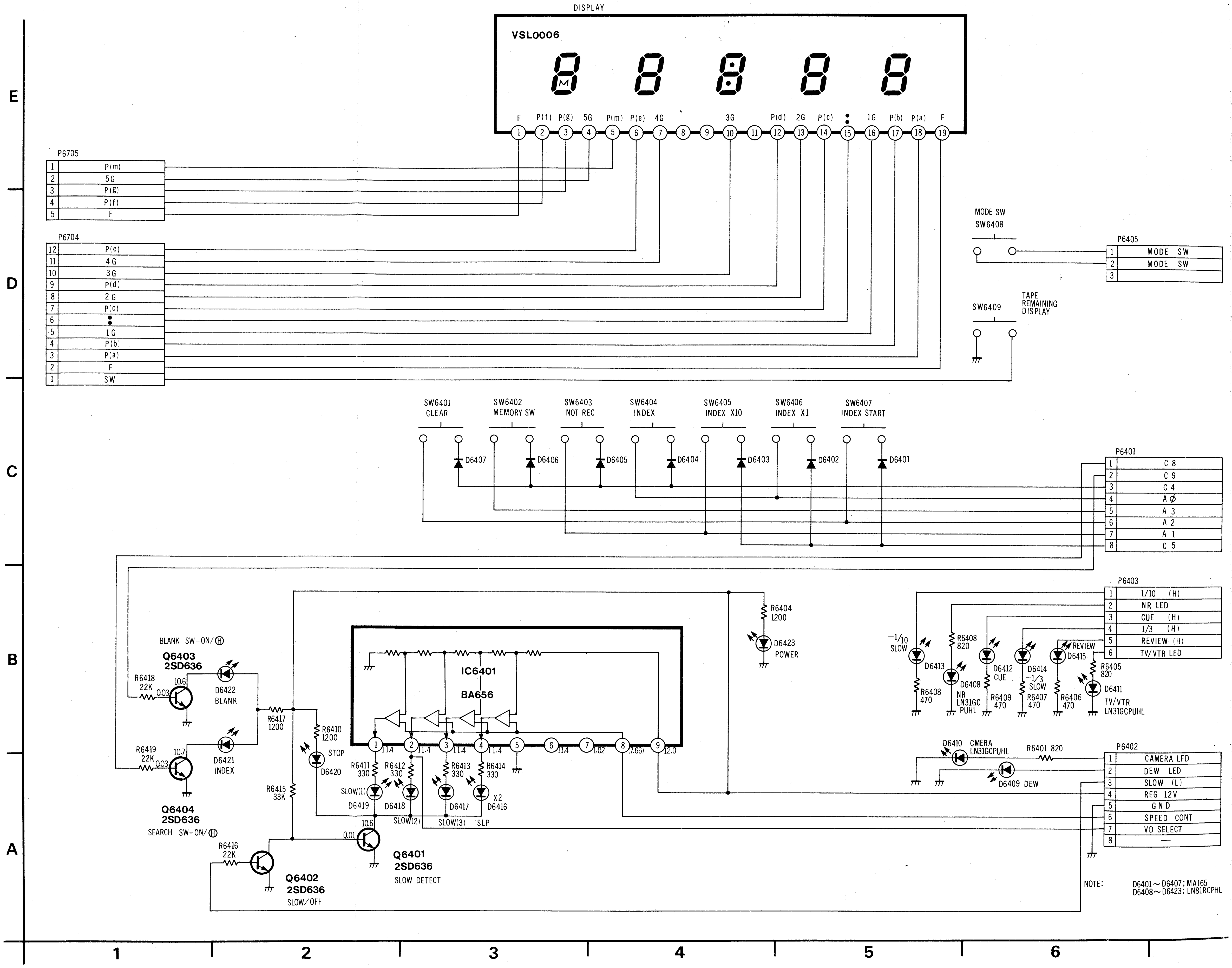
PIN NO.	SIGNAL NAME	DESTINATION
1	12V REG	P6402-4 Operation (II) C.B.A
2	—	— —
3	W L VR	P2008-4 Servo C.B.A
4	W L VR	P2008-1 Servo C.B.A
5	Tracking VR	P2008-7 Servo C.B.A
6	Tracking VR	P2008-8 Servo C.B.A
7	GND	P6402-5 Operation (II) C.B.A
8	CH Direct Signal	P6021-2 System Control C.B.A

P6304 (Operation (I) C.B.A)

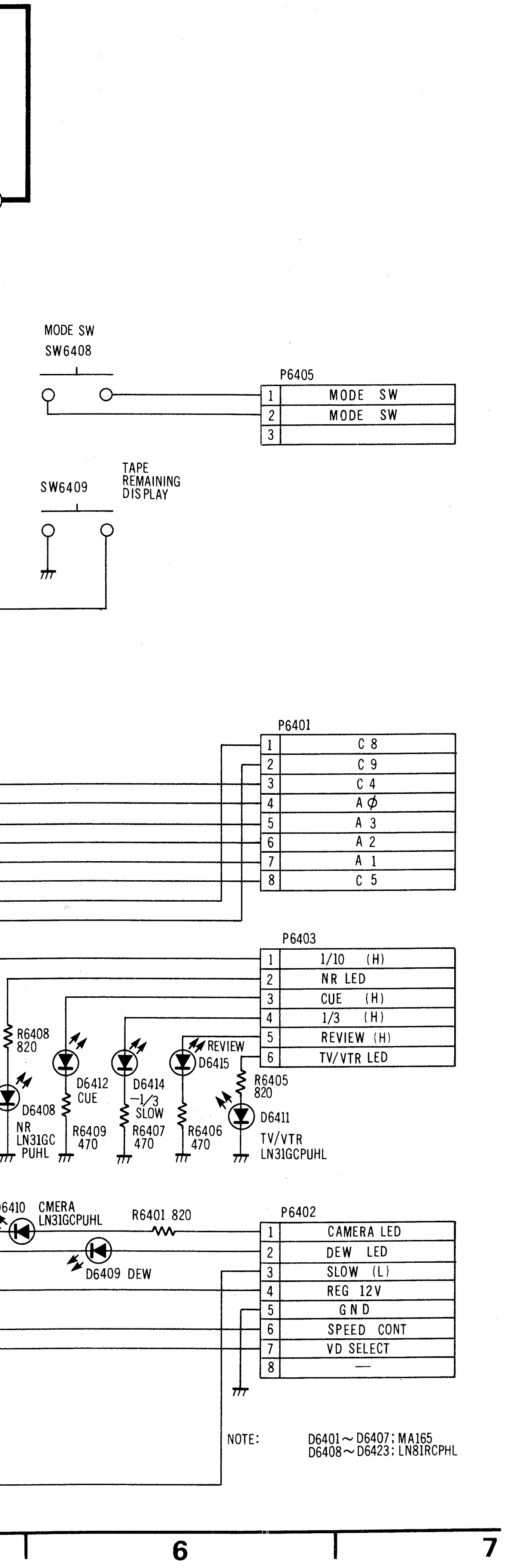
PIN NO.	SIGNAL NAME	DESTINATION
1	Slow TR VR1	P2508-3 Pattern Generator C.B.A
2	Slow TR VR1	P2508-2 Pattern Generator C.B.A
3	Slow TR VR2	P2508-4 Pattern Generator C.B.A
4	Slow TR VR2	P2508-5 Pattern Generator C.B.A
5	SP/SLP Select	P2508-1 Pattern Generator C.B.A

P6305 (Operation (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Remote Control In	P6601-3 Remote Control Reciever
2	GND	P6601-1 Remote Control Reciever
3	12V	P6601-2 Remote Control Reciever


DISPLAY
VSL0006
F P(f) P(g) 5G P(m) P(e) 4G 3G P(d) 2G P(c) 1G P(b) P(a) F
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19
P6705
1 P(m)
2 5G
3 P(g)
4 P(f)
5 F
P6704
12 P(e)
11 4G
10 3G
9 P(d)
8 2G
7 P(c)
6 :
5 1G
4 P(b)
3 P(a)
2 F
1 SW
MODE SW
SW6408
P6405
1 MODE SW
2 MODE SW
3
SW6409
TAPE REMAINING DISPLAY
SW6401 CLEAR
SW6402 MEMORY SW
SW6403 NOT REC
SW6404 INDEX
SW6405 INDEX X10
SW6406 INDEX X1
SW6407 INDEX START
D6407 D6406 D6405 D6404 D6403 D6402 D6401
P6401
1 C8
2 C9
3 C4
4 Aϕ
5 A3
6 A2
7 A1
8 C5
P6403
1 1/10 (H)
2 NR LED
3 CUE (H)
4 1/3 (H)
5 REVIEW (H)
6 TV/VTR LED
R6404 1200
D6423 POWER
BLANK SW-ON/Ⓗ
Q6403 2SD636
R6418 22K
10.6
0.03
D6422 BLANK
R6419 22K
10.7
0.03
D6421 INDEX
Q6404 2SD636
SEARCH SW-ON/Ⓗ
R6417 1200
R6410 1200
STOP
D6420
R6415 33K
R6416 22K
Q6402 2SD636
SLOW/OFF
IC6401
BA656
11.4 11.4 11.4 11.4 11.4 1.02 (7.66) 12.0
R6411 330
R6412 330
R6413 330
R6414 330
SLOW(1)
D6419 D6418 D6417 D6416
X2
SLOW(2) SLOW(3) SLP
10.6
0.01
Q6401 2SD636
SLOW DETECT
−1/10 SLOW
D6413
R6408 470
R6408 820
D6408 NR LN31GC PUHL
D6412 CUE
R6409 470
D6414 −1/3 SLOW
R6407 470
REVIEW D6415
R6406 470
R6405 820
D6411 TV/VTR LN31GCPUHL
D6410 CMERA LN31GCPUHL
R6401 820
D6409 DEW
P6402
1 CAMERA LED
2 DEW LED
3 SLOW (L)
4 REG 12V
5 GND
6 SPEED CONT
7 VD SELECT
8 —
E D C B A
1 2 3 4 5 6

NOTE: D6401～D6407; MA165
D6408～D6423; LN81RCPHL


MODE SW
SW6408
P6405
1 MODE SW
2 MODE SW
3
SW6409
TAPE REMAINING DISPLAY
P6401
1 C 8
2 C 9
3 C 4
4 A ϕ
5 A 3
6 A 2
7 A 1
8 C 5
P6403
1 1/10 (H)
2 NR LED
3 CUE (H)
4 1/3 (H)
5 REVIEW (H)
6 TV/VTR LED
R6408 820
D6408
NR LN31GC PUHL
D6412 CUE
R6409 470
D6414 −1/3 SLOW
R6407 470
REVIEW
D6415
R6406 470
R6405 820
D6411
TV/VTR LN31GCPUHL
D6410 CMERA LN31GCPUHL
R6401 820
D6409 DEW
P6402
1 CAMERA LED
2 DEW LED
3 SLOW (L)
4 REG 12V
5 GND
6 SPEED CONT
7 VD SELECT
8 —
6
7

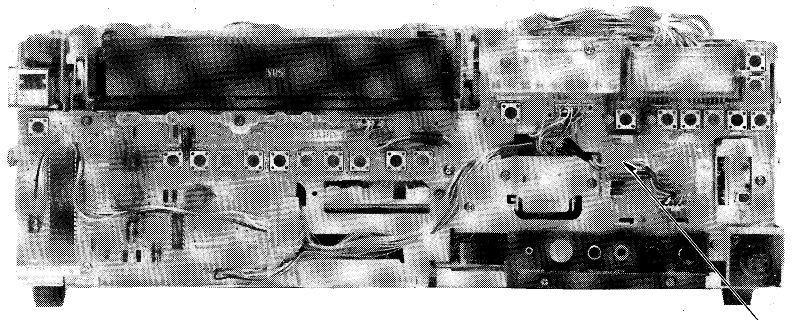
NOTE: D6401～D6407; MA165
D6408～D6423; LN81RCPHL

P6401 (Operation (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	C8	P6802-7 Counter & Index (II) Section
2	C9	P6802-8 Counter & Index (II) Section
3	C4	P6802-5 Counter & Index (II) Section
4	Aϕ	P6803-2 Counter & Index (II) Section
5	A3	P6803-5 Counter & Index (II) Section
6	A2	P6803-4 Counter & Index (II) Section
7	A1	P6803-3 Counter & Index (II) Section
8	C5	P6802-6 Counter & Index (II) Section

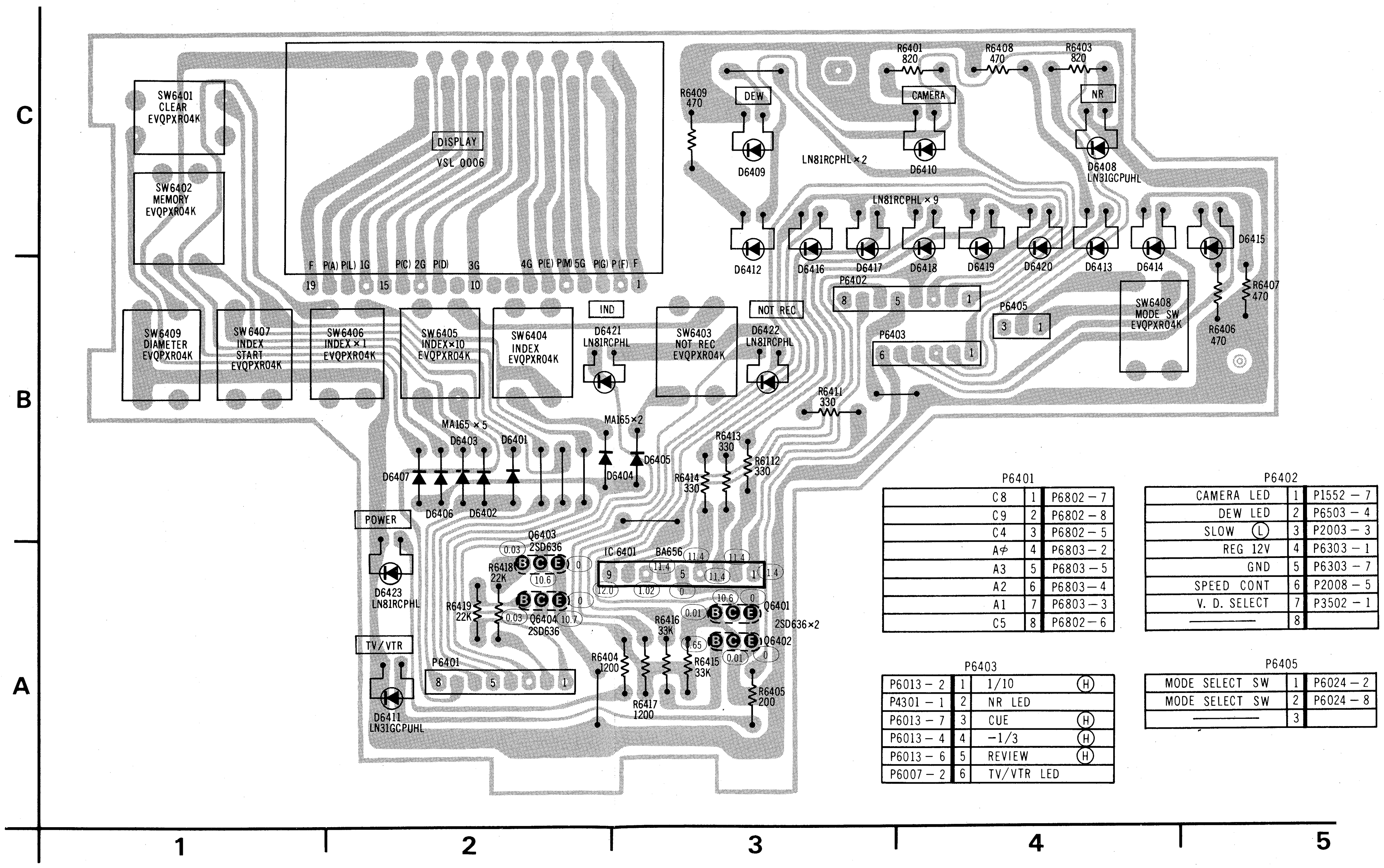
P6403 (Operation (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	1/10 (H)	P6013-2 System Control C.B.A
2	NR LED	P4301-1 Audio Output Select C.B.A
3	CUE	P6013-7 System Control C.B.A
4	−1/3 (H)	P6013-4 System Control C.B.A
5	Review (H)	P6013-6 System Control C.B.A
6	TV/VTR LED	P6007-2 System Control C.B.A

P6402 (Operation (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Camera LED	P1552-7 Input Jack C.B.A
2	DEW LED	P6503-4 Search & Sub System Control (I) C.B.A
3	Slow (L)	P2003-3 Servo C.B.A
4	REG 12V	P6303-1 Operation (I) C.B.A
5	GND	P6303-7 Operation (I) C.B.A
6	Speed CONT	P2008-5 Servo C.B.A
7	V.D Select	P3502-1 Audio Section
8	—	— —

P6405 (Operation (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Mode Select SW	P6024-2 System Control C.B.A
2	Mode Select SW	P6024-8 System Control C.B.A
3	—	— —


Operation (2) C.B.A.

OPERATION (2) C.B.A. (VEP06161A)


C
B
A
1
2
3
4
5
SW6401 CLEAR EVQPXR04K
SW6402 MEMORY EVQPXR04K
DISPLAY
VSL 0006
F P(A) P(L) 1G P(C) 2G P(D) 3G 4G P(E) P(M) 5G P(G) P(F) F
19 15 10 1
SW6409 DIAMETER EVQPXR04K
SW6407 INDEX START EVQPXR04K
SW6406 INDEX×1 EVQPXR04K
SW6405 INDEX×10 EVQPXR04K
SW6404 INDEX EVQPXR04K
IND
D6421 LN81RCPHL
SW6403 NOT REC EVQPXR04K
NOT REC
D6422 LN81RCPHL
R6409 470
DEW
D6409
LN81RCPHL×2
R6401 820
R6408 470
R6403 820
CAMERA
D6410
NR
D6408 LN31GCPUHL
LN81RCPHL×9
D6412 D6416 D6417 D6418 D6419 D6420 D6413 D6414 D6415
P6402
8 5 1
P6405
3 1
P6403
6 1
SW6408 MODE SW EVQPXR04K
R6406 470
R6407 470
R6411 330
MA165×5
D6403 D6401
D6407 D6406 D6402
MA165×2
D6404 D6405
R6413 330
R6112 330
R6414 330
POWER
D6423 LN81RCPHL
Q6403 2SD636
R6418 22K
R6419 22K
Q6404 2SD636
IC 6401 BA656
Q6401
2SD636×2
Q6402
R6416 33K
R6415 33K
R6404 1200
R6417 1200
R6405 200
TV/VTR
D6411 LN31GCPUHL
P6401
8 5 1
0.03 10.6 0 0.03 10.7 0 11.4 11.4 11.4 11.4 11.4 12.0 1.02 0 10.6 0 0.01 0.65 0.01 0

P6401

C8	1	P6802 − 7
C9	2	P6802 − 8
C4	3	P6802 − 5
Aϕ	4	P6803 − 2
A3	5	P6803 − 5
A2	6	P6803 − 4
A1	7	P6803 − 3
C5	8	P6802 − 6

P6402

CAMERA LED	1	P1552 − 7
DEW LED	2	P6503 − 4
SLOW Ⓛ	3	P2003 − 3
REG 12V	4	P6303 − 1
GND	5	P6303 − 7
SPEED CONT	6	P2008 − 5
V. D. SELECT	7	P3502 − 1
———	8	

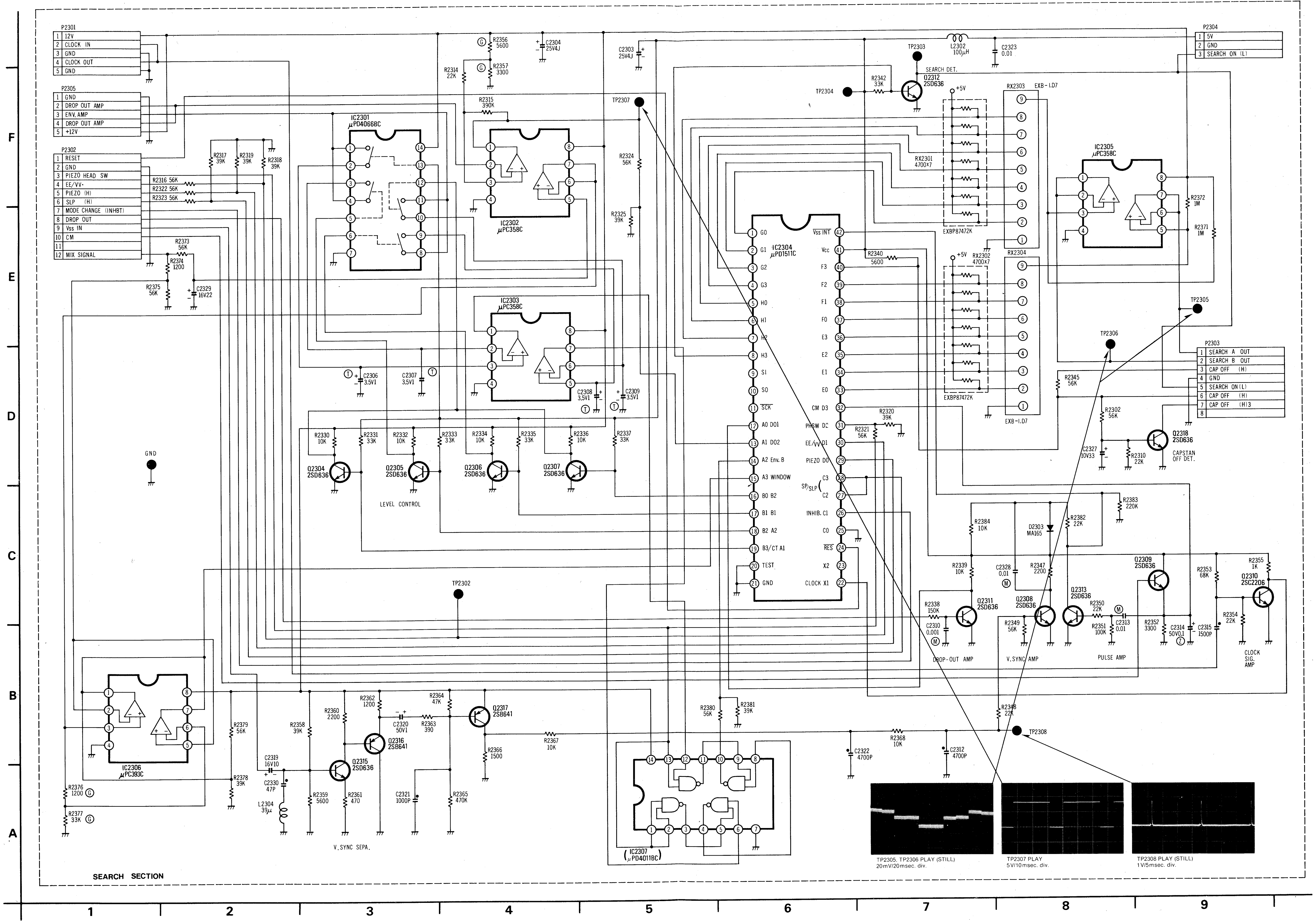
P6403

P6013 − 2	1	1/10 Ⓗ
P4301 − 1	2	NR LED
P6013 − 7	3	CUE Ⓗ
P6013 − 4	4	−1/3 Ⓗ
P6013 − 6	5	REVIEW Ⓗ
P6007 − 2	6	TV/VTR LED

P6405

MODE SELECT SW	1	P6024 − 2
MODE SELECT SW	2	P6024 − 8
———	3	

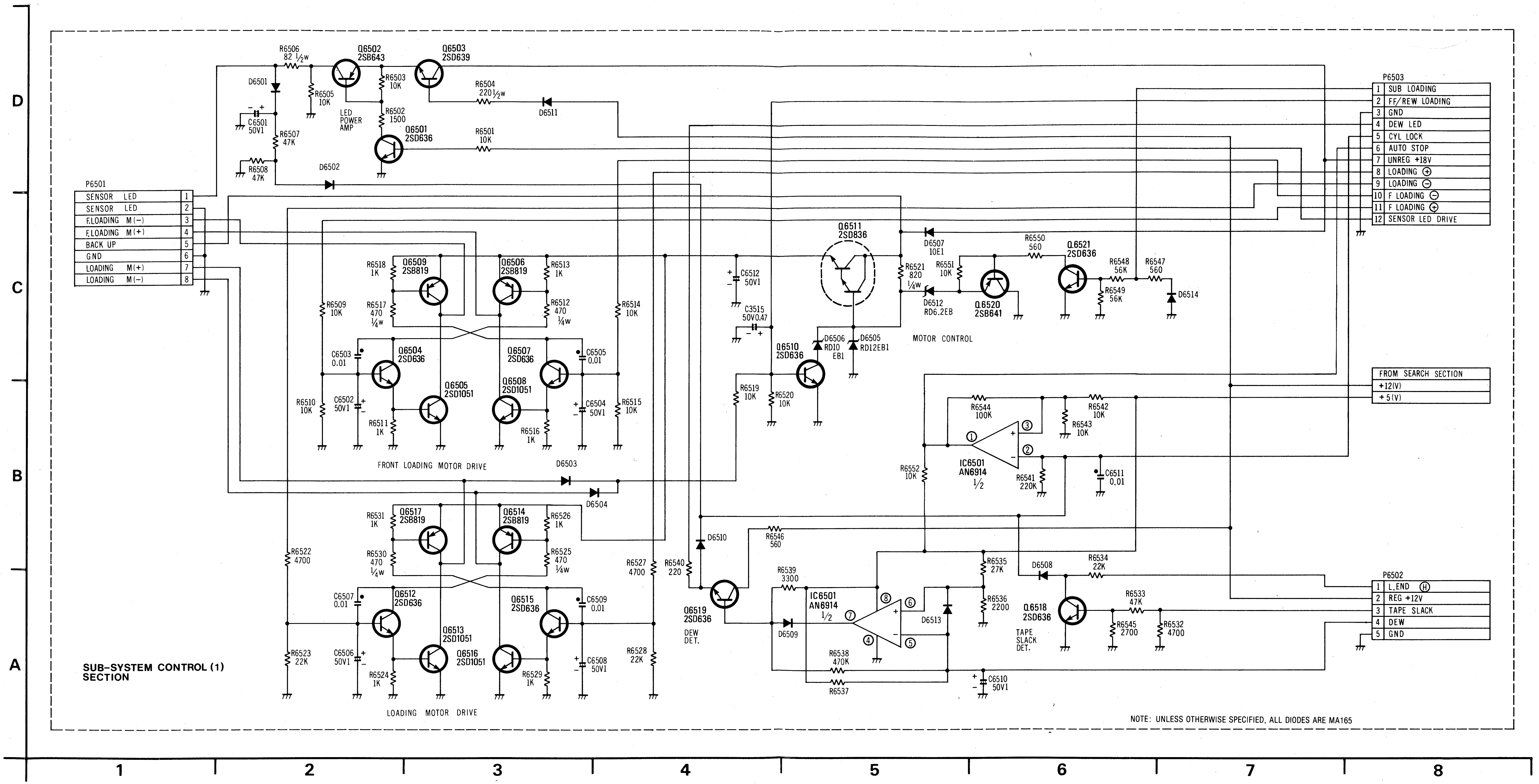
SEARCH & SUB-SYSTEM CONTROL (I) SCHEMATIC DIAGRAM


P2301
1 12V
2 CLOCK IN
3 GND
4 CLOCK OUT
5 GND
P2305
1 GND
2 DROP OUT AMP
3 ENV. AMP
4 DROP OUT AMP
5 +12V
P2302
1 RESET
2 GND
3 PIEZO HEAD SW
4 EE/VV·
5 PIEZO (H)
6 SLP (H)
7 MODE CHANGE (INHBT)
8 DROP OUT
9 Vss IN
10 CM
11
12 MIX SIGNAL
P2304
1 5V
2 GND
3 SEARCH ON (L)
P2303
1 SEARCH A OUT
2 SEARCH B OUT
3 CAP OFF (H)
4 GND
5 SEARCH ON (L)
6 CAP OFF (H)
7 CAP OFF (H)3
8
IC2301 μPD4066BC
IC2302 μPC358C
IC2303 μPC358C
IC2304 μPD1511C
IC2305 μPC358C
IC2306 μPC393C
IC2307 μPD4011BC
G0
G1
G2
G3
H0
H1
H2
H3
S1
S0
SCK
A0 DO1
A1 DO2
A2 Env. B
A3 WINDOW
B0 B2
B1 B1
B2 A2
B3/CT A1
TEST
GND
Vss INT
Vcc
F3
F2
F1
F0
E3
E2
E1
E0
CM D3
PHSW DC
EE/VV D1
PIEZO D0
SP/SLP
C3
C2
INHIB. C1
C0
RES
X2
CLOCK X1
RX2301 4700×7
RX2302 4700×7
RX2303 EXB-1.D7
RX2304 EXB-1.D7
EXBP87472K
Q2304 2SD636
Q2305 2SD636
Q2306 2SD636
Q2307 2SD636
Q2308 2SD636
Q2309 2SD636
Q2310 2SC2206
Q2311 2SD636
Q2312 2SD636
Q2313 2SD636
Q2315 2SD636
Q2316 2SB641
Q2317 2SB641
Q2318 2SD636
D2303 MA165
L2302 100μH
L2304 39μ
TP2302
TP2303
TP2304
TP2305
TP2306
TP2307
TP2308
GND
SEARCH DET.
CAPSTAN OFF DET.
LEVEL CONTROL
DROP-OUT AMP
V.SYNC AMP
PULSE AMP
CLOCK SIG. AMP
V.SYNC SEPA.
SEARCH SECTION
+5V
R2302 56K
R2314 22K
R2315 390K
R2316 56K
R2317 39K
R2318 39K
R2319 39K
R2320 39K
R2321 56K
R2322 56K
R2323 56K
R2324 56K
R2325 39K
R2330 10K
R2331 33K
R2332 10K
R2333 33K
R2334 10K
R2335 33K
R2336 10K
R2337 33K
R2338 150K
R2339 10K
R2340 5600
R2342 33K
R2345 56K
R2347 2200
R2348 22K
R2349 56K
R2350 22K
R2351 100K
R2352 3300
R2353 68K
R2354 22K
R2355 1K
R2356 5600
R2357 3300
R2358 39K
R2359 5600
R2360 2200
R2361 470
R2362 1200
R2363 390
R2364 47K
R2365 470K
R2366 1500
R2367 10K
R2368 10K
R2371 1M
R2372 1M
R2373 56K
R2374 1200
R2375 56K
R2376 1200
R2377 33K
R2378 39K
R2379 56K
R2380 56K
R2381 39K
R2382 22K
R2383 220K
R2384 10K
C2303 25V4J
C2304 25V4J
C2306 3.5V1
C2307 3.5V1
C2308 3.5V1
C2309 3.5V1
C2310 0.001
C2312 4700P
C2313 0.01
C2314 50V0.1
C2315 1500P
C2319 16V10
C2320 50V1
C2321 1000P
C2322 4700P
C2323 0.01
C2327 10V33
C2328 0.01
C2329 16V22
C2330 47P
A
B
C
D
E
F
1
2
3
4
5
6
7
8
9

TP2305, TP2306 PLAY (STILL)
20mV/20msec. div.

TP2307 PLAY
5V/10msec. div.

TP2308 PLAY (STILL)
1V/5msec. div.


SUB-SYSTEM CONTROL (1) SECTION
D
C
B
A
1
2
3
4
5
6
7
8
P6501
SENSOR LED 1
SENSOR LED 2
F.LOADING M(−) 3
F.LOADING M(+) 4
BACK UP 5
GND 6
LOADING M(+) 7
LOADING M(−) 8
R6506 82 ½W
Q6502 2SB643
Q6503 2SD639
D6501
R6505 10K
R6503 10K
R6502 1500
LED POWER AMP
C6501 50V1
R6507 47K
R6508 47K
Q6501 2SD636
R6504 220 ½W
D6511
R6501 10K
D6502
R6518 1K
Q6509 2SB819
Q6506 2SB819
R6513 1K
R6517 470 ¼W
R6512 470 ¼W
R6509 10K
R6514 10K
C6503 0.01
Q6504 2SD636
Q6507 2SD636
C6505 0.01
Q6505 2SD1051
Q6508 2SD1051
R6510 10K
C6502 50V1
R6511 1K
R6516 1K
C6504 50V1
R6515 10K
FRONT LOADING MOTOR DRIVE
D6503
D6504
R6531 1K
Q6517 2SB819
Q6514 2SB819
R6526 1K
R6530 470 ¼W
R6525 470 ¼W
R6522 4700
C6507 0.01
Q6512 2SD636
Q6515 2SD636
C6509 0.01
Q6513 2SD1051
Q6516 2SD1051
R6523 22K
C6506 50V1
R6524 1K
R6529 1K
C6508 50V1
R6527 4700
R6528 22K
LOADING MOTOR DRIVE
C6512 50V1
C3515 50V0.47
Q6511 2SD836
R6521 820 ¼W
D6507 10E1
D6512 RD6.2EB
R6551 10K
R6550 560
Q6521 2SD636
Q6520 2SB641
R6548 56K
R6547 560
R6549 56K
D6514
MOTOR CONTROL
Q6510 2SD636
D6506 RD10 EB1
D6505 RD12EB1
R6519 10K
R6520 10K
R6544 100K
R6542 10K
R6543 10K
IC6501 AN6914 ½
R6552 10K
R6541 220K
C6511 0.01
R6540 220
D6510
R6546 560
Q6519 2SD636
DEW DET.
R6539 3300
IC6501 AN6914 ½
D6509
R6538 470K
R6537
D6513
R6535 27K
R6536 2200
D6508
R6534 22K
Q6518 2SD636
TAPE SLACK DET.
R6533 47K
R6545 2700
R6532 4700
C6510 50V1
P6503
1 SUB LOADING
2 FF/REW LOADING
3 GND
4 DEW LED
5 CYL LOCK
6 AUTO STOP
7 UNREG +18V
8 LOADING ⊕
9 LOADING ⊖
10 F LOADING ⊖
11 F LOADING ⊕
12 SENSOR LED DRIVE
FROM SEARCH SECTION
+12(V)
+5(V)
P6502
1 L.END Ⓗ
2 REG +12V
3 TAPE SLACK
4 DEW
5 GND
NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

P2301 (Search & Sub System Control (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	12V	P3006-2 Luminance & Chrominance C.B.A
2	3.58MHz In	P3006-8 Luminance & Chrominance C.B.A
3	GND	P3006-5 Luminance & Chrominance C.B.A
4	3.58MHz Out	P2502-1 Pattern Generator C.B.A
5	GND	P2502-3 Pattern Generator C.B.A

P2302 (Search & Sub System Control (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Reset	P6031-1 System Control C.B.A
2	GND	— —
3	P.H SW	P3006-9 Luminance & Chrominance C.B.A
4	EE/VV	P6016-2 System Control C.B.A
5	Piezo (H)	P3006-1 Luminance & Chrominance C.B.A
6	SLP (H)	P6012-3 System Control C.B.A
7	Mode Change (Inhibat)	P6707-2 Remaining Tape Time Display Section
8	D.O.C	P3006-3 Luminance & Chrominance C.B.A
9	Vss In	P3005-7 Luminance & Chrominance C.B.A
10	CM	P2502-2 Pattern Generator C.B.A
11	ADI Inhibat	P2504-10 Pattern Generator C.B.A
12	MIX Signal	P3501-11 V-Dansing COMP (I) Section

P2303 (Search & Sub System Control (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Search A Out	P2505-5 Pattern Generator
2	Search B Out	P2505-6 Pattern Generator
3	Cap Off (L)	P2005-8 Servo C.B.A
4	GND	— —
5	Search ON (L)	P2504-7 Pattern Generator
6	Cap Off (H)	P6006-2 System Control C.B.A
7	Cap Off	P2510-2 Pattern Generator
8	—	— —

P2304 (Search & Sub System Control (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	5V	P1006-12 Power Supply C.B.A
2	GND	P1011-3 Power Supply C.B.A
3	Search On	P1007-11 Power Supply C.B.A

P2305 (Search & Sub System Control (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P2901-1 Envelope AMP C.B.A
2	Drop Out AMP	P2901-2 Envelope AMP C.B.A
3	ENV AMP	P2901-3 Envelope AMP C.B.A
4	—	— —
5	12V	P2901-5 Envelope AMP C.B.A

P6501 (Sub System Control (I) Section C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Sens LED	P1523-1 Inter Connection
2	Sens LED (GND)	P1509-8 Inter Connection
3	F. Loading (M) −	P1514-5 Cassette Connection C.B
4	F. Loading (M) +	P1514-6 Cassette Connection C.B
5	Back Up	P6001-3 System Control C.B.A
6	GND	P1514-4 Cassette Connection C.B
7	Loading (M) −	P1523-2 Inter Connection
8	Loading (M) +	P1523-3 Inter Connection

P6502 (Search & Sub System Control (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Loading End (H)	P6014-2 System Control C.B.A
2	12V	— —
3	Tape Slack	P1509-1 Inter Connection
4	DEW	P1523-4 Inter Connection
5	GND	P1523-5 Inter Connection

P6503 (Sub System Control (I) Section C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Sub Loading	P6029-5 System Control C.B.A
2	FF/REW Loading	P6029-4 System Control C.B.A
3	GND	P6010-3 System Control C.B.A
4	DEW LED	P6402-4 Operation (II) C.B.A
5	CAP/CYL Lock	P6029-2 System Control C.B.A
6	Auto Stop	P6029-3 System Control C.B.A
7	UNREG 18V	P6010-7 System Control C.B.A
8	Loading	P6020-4 System Control C.B.A
9	Loading	P6020-5 System Control C.B.A
10	Front Loading	P6020-2 System Control C.B.A
11	Front Loading	P6020-1 System Control C.B.A
12	Sens LED Drive	P6020-3 System Control C.B.A

SEARCH & SUB-SYSTEM CONTROL (I) ICs VOLTAGE CHART

REF. NO.	IC2301													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	3.49	3.49	—	3.49	12.0	12.0	0	3.48	—	—	3.48	12.0	12.0	12.0
PLAY	3.67	3.95	—	3.68	12.0	12.0	0	3.68	—	3.58	3.68	12.0	12.0	12.0
REC	3.46	—	3.45	3.45	12.0	12.0	0	3.46	3.46	—	3.46	12.0	12.0	12.0
F.F	3.48	3.48	3.48	3.48	12.0	12.0	0	3.48	3.48	3.48	3.48	12.0	12.0	12.0
REW	3.49	3.49	3.50	3.49	12.0	12.0	0	3.49	3.49	3.50	3.48	12.0	12.0	12.0

REF. NO.	IC2302							
MODE	1	2	3	4	5	6	7	8
STOP	10.8	2.99	4.82	0	11.3	10.8	10.8	12.0
PLAY	7.95	4.00	4.66	0	8.70	8.72	8.72	12.0
REC	10.8	2.78	4.82	0	8.68	8.73	8.73	12.0
F.F	10.8	3.00	4.82	0	11.3	10.8	10.8	12.0
REW	10.8	3.00	4.82	0	11.3	10.8	10.8	12.0

REF. NO.	IC2303							
MODE	1	2	3	4	5	6	7	8
STOP	10.8	3.49	3.48	0	—	—	10.8	12.0
PLAY	10.8	4.00	3.95	0	—	3.60	10.8	12.0
REC	10.8	3.46	—	0	3.46	—	0	12.0
F.F	10.8	3.49	3.49	0	3.49	3.49	10.8	12.0
REW	10.8	3.02	4.82	0	11.3	10.8	10.8	12.0

REF. NO.	IC2304																				
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
STOP	0.12	0.12	0.12	0.11	0.11	0.10	4.82	0.04	—	—	—	4.85	4.41	4.90	0.01	0.65	0.65	0.65	0.64	0	0
PLAY	0.10	4.83	4.85	4.86	4.86	4.85	0.09	0.03	—	—	—	0.04	3.23	2.45	0.04	0.34	0.64	0.65	0.33	0	0
REC	0.10	4.84	4.86	4.86	4.86	4.86	0.09	0.03	—	—	—	0.03	4.41	2.45	0.04	0.64	0.33	0.34	0.65	0	0
F.F	0.12	0.12	0.12	0.11	0.11	0.10	4.82	0.04	—	—	—	4.86	4.41	4.90	0.01	0.03	0.03	0.03	0.02	0	0
REW	0.12	0.12	0.12	0.11	0.11	0.10	4.82	0.04	—	—	—	4.85	4.41	4.90	0.01	0.03	0.64	0.65	0.64	0	0

REF. NO.	IC2304																				
MODE	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42
STOP	2.08	0.48	4.85	0	0	0.03	0.03	0	4.84	0.14	0	0.10	0.10	0.10	0.10	0.10	0.10	4.82	0.13	4.86	4.15
PLAY	2.09	0.48	4.85	0	0	0.03	0.03	0	0	2.16	0.02	0.10	4.80	0.10	0.10	0.10	0.10	4.84	0.13	4.87	4.20
REC	2.10	0.49	4.85	0	0.02	0.02	0.02	0.02	0.04	0.03	0.03	0.10	0.10	0.10	0.10	0.10	0.12	4.83	0.13	4.86	4.24
F.F	2.09	0.49	4.85	0	0	0.03	0.03	0	4.84	0.14	0	0.10	0.10	0.10	0.10	0.11	0.12	4.82	0.13	4.86	4.18
REW	2.09	0.49	4.84	0	0	0.03	0.03	0	4.84	0.14	0	0.10	0.10	0.11	0.11	0.11	0.12	4.82	0.13	4.86	4.18

REF. NO.	IC6501							
MODE	1	2	3	4	5	6	7	8
STOP	4.26	0.64	2.52	0	0	0.37	0.03	4.86
PLAY	4.27	0.64	2.52	0	0	0.38	0.03	4.87
REC	4.26	0.64	2.52	0	0	0.38	0.03	4.86
F.F	4.26	0.64	2.52	0	0	0.37	0.03	4.86
REW	4.26	0.64	2.52	0	0	0.37	0.03	4.86

SEARCH & SUB-SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

REF. NO.	Q2304			Q2305			Q2306			Q2307			Q2308			Q2309			Q2310		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.03	0.65	0	0.02	0.65	0	0.02	0.64	0	0.03	0.64	0	4.20	−0.20	0	4.86	0.02	0	2.08	0.38
PLAY	0	0.03	0.65	0	6.10	0.33	0	5.94	0.34	0	0.03	0.65	0	4.78	−0.09	0.02	4.87	0.02	0	2.10	0.38
REC	0	6.00	0.33	0	0.02	0.65	0	0.02	0.64	0	6.03	0.33	0	4.87	0	0.02	4.88	0.02	0	2.10	0.38
F.F	0	12.0	0.03	0	0.02	0.64	0	0.02	0.64	0	0.03	0.64	0	4.81	0	0	4.86	0.02	0	2.10	0.38
REW	0	12.0	0.03	0	0.02	0.64	0	0.02	0.64	0	0.03	0.64	0	4.81	0	0	4.86	0.02	0	2.10	0.38

REF. NO.	Q2311			Q2312			Q2313			Q2315			Q2316			Q2317			Q2318		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	4.03	0.32	0	11.5	0.04	0	4.16	0	0.87	8.00	1.49	8.64	0	7.99	12.0	2.22	12.0	0	—	0.04
PLAY	0	0.04	0.62	0	11.5	0.04	0	4.21	−0.02	0.87	8.00	1.49	8.64	0	7.99	12.0	1.18	12.1	0	—	0.04
REC	0	0.03	0.62	0	11.5	0.03	0	4.22	−0.02	0.87	7.97	1.49	8.61	0	7.97	12.0	3.30	11.4	0	—	0.04
F.F	0	4.85	0.11	0	11.5	0.04	0	4.22	0	0.87	7.95	1.49	8.59	0	7.95	12.0	1.32	12.0	0	—	0.04
REW	0	4.85	0.11	0	11.5	0.04	0	4.22	0	0.87	7.95	1.49	8.59	0	7.95	12.0	1.32	12.0	0	—	0.04

REF. NO.	Q6501			Q6502			Q6503			Q6504			Q6505			Q6506			Q6507		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	9.96	0.09	11.5	1.44	11.3	11.5	17.5	11.7	0	11.2	0.07	0	—	0	11.2	—	11.2	0	11.2	0.07
PLAY	0	9.97	0.09	11.5	1.42	11.3	11.5	16.6	11.7	0	11.1	0.07	0	—	0	11.1	—	11.1	0	11.1	0.07
REC	0	9.99	0.09	11.5	1.44	11.3	11.5	16.9	11.7	0	11.4	0.07	0	—	0	11.4	—	11.4	0	11.4	0.07
F.F	0	9.97	0.09	11.5	1.45	11.3	11.5	17.0	11.7	0	11.4	0.07	0	—	0	11.4	—	11.4	0	11.4	0.07
REW	0	9.98	0.09	11.5	1.45	11.3	11.5	17.0	11.7	0	11.4	0.07	0	—	0	11.4	—	11.4	0	11.4	0.07

REF. NO.	Q6508			Q6509			Q6510			Q6511			Q6512			Q6513			Q6514		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	—	0	11.2	—	11.2	0	2.47	0	11.2	17.0	11.6	0	11.2	0.01	0	−0.07	0	11.2	−0.06	11.2
PLAY	0	—	0	11.1	—	11.1	0	2.45	0	11.1	16.3	11.8	0	11.4	0.01	0	−0.07	0	11.3	−0.07	11.3
REC	0	—	0	11.4	—	11.4	0	2.66	0	11.4	16.2	11.8	0	11.4	0.02	0	−0.07	0	11.4	−0.06	11.4
F.F	0	—	0	11.4	—	11.4	0	2.67	0	11.4	16.0	11.8	0	11.3	0.12	0	−0.07	0	11.3	−0.07	11.3
REW	0	—	0	11.4	—	11.4	0	2.66	0	11.4	16.3	11.8	0	11.3	0.19	0	−0.07	0	11.4	−0.07	11.3

REF. NO.	Q6515			Q6516			Q6517			Q6518			Q6519			Q6520			Q6521		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	11.2	0.13	0	−0.08	0	11.2	−0.08	11.2	0	0	0.56	0.42	12.0	0.67	7.46	0	7.45	0	7.46	0
PLAY	0	11.3	0.12	0	−0.08	0	11.3	−0.08	11.3	0	0.04	0.58	0.46	12.0	0.67	7.63	0	7.64	0	7.63	0
REC	0	11.4	0.13	0	−0.07	0	11.4	−0.07	11.4	0	0.04	0.58	0.47	12.0	0.67	7.67	0	7.66	0	7.66	0
F.F	0	11.4	0.13	0	−0.07	0	11.3	−0.07	11.3	0	0	0.56	0.47	12.0	0.67	7.62	0	7.62	0	7.62	0
REW	0	11.4	0.13	0	−0.07	0	11.4	−0.07	11.4	0	0	0.56	0.46	12.0	0.67	7.62	0	7.62	0	7.62	0

SEARCH & SUB-SYSTEM CONTROL (I) C.B.A. (VEP02147A)

P2301

P3006 − 2	1	12V
P3006 − 8	2	3.58MHz IN
	3	GND
P2502 − 1	4	3.58MHz OUT
	5	GND

P2302

P6031 − 1	1	RESET
	2	GND
P3006 − 9	3	P. H SW
P6016 − 2	4	EE/VV
P3006 − 1	5	PIEZO Ⓗ
P6012 − 3	6	SLP Ⓗ
P6707 − 2	7	MODE CHANGE(INHIBIT)
P3006 − 3	8	D. O. C
P3005 − 7	9	VSS IN
P2502 − 2	10	CM
P2504 − 10	11	ADI INHIBIT
P3501 − 11	12	MIX SIGNAL

P2303

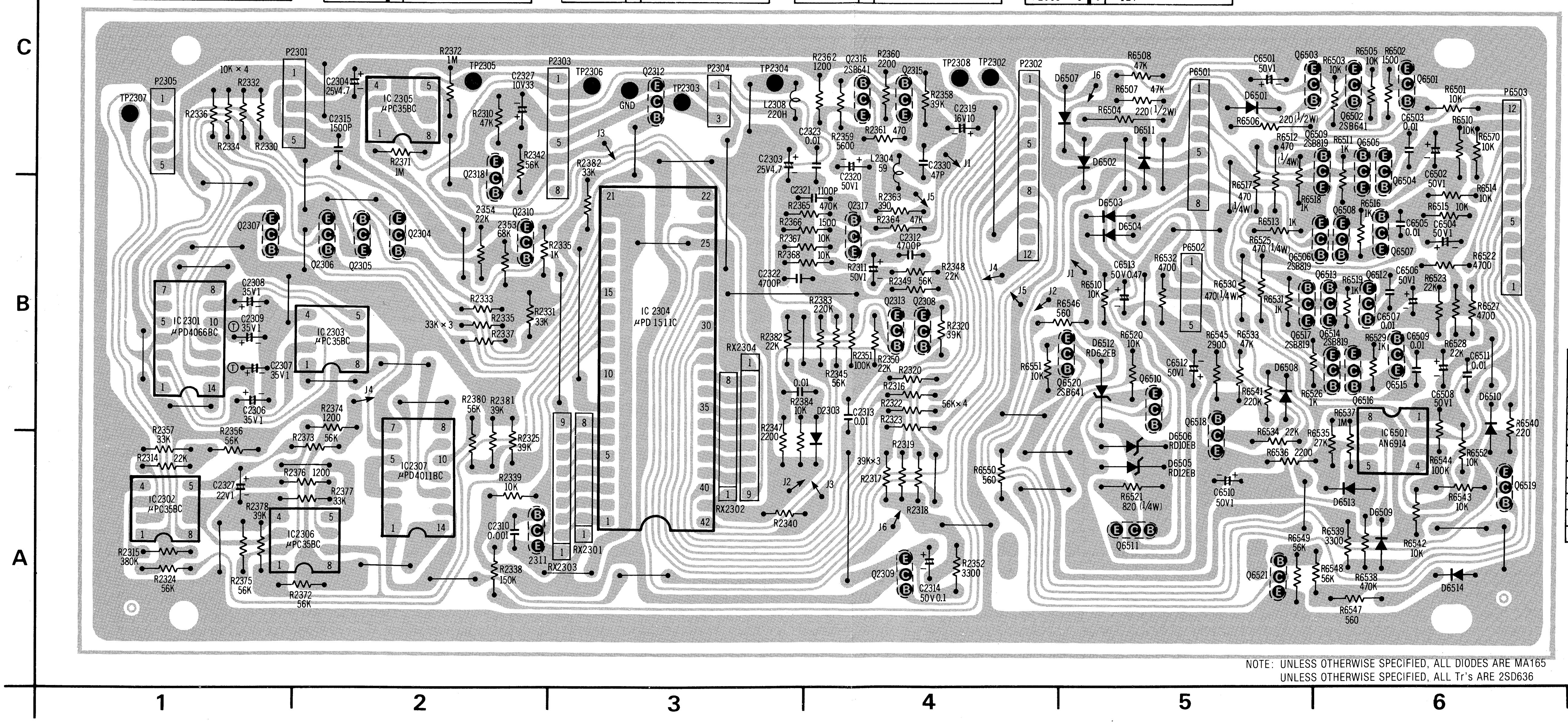
P2502 − 5	1	SEARCH A OUT
P2502 − 6	2	SEARCH B OUT
P2005 − 8	3	CAP OFF Ⓛ
	4	GND
P2504 − 7	5	SEARCH ON Ⓛ
P6006 − 2	6	CAP OFF Ⓗ
P2510 − 2	7	CAP OFF
	8	———

P2304

P1006 − 12	1	5V
P1011 − 3	2	GND
P1007 − 11	3	SEARCH ON

P2305

P2901 − 1	1	GND
P2901 − 2	2	DROP OUT AMP
P2901 − 3	3	ENV AMP
	4	———
P2901 − 5	5	12V


C
B
A
1
2
3
4
5
6
P2305
TP2307
R2336
10K × 4
R2332
R2334
R2330
P2301
C2304 25V4.7
C2315 1500P
IC 2305 μPC35BC
R2371 1M
R2372 1M
TP2305
C2327 10V33
R2310 47K
Q2318
R2342 56K
P2303
TP2306
GND
Q2312
TP2303
J3
R2382 33K
P2304
TP2304
L2308 220H
R2362 1200
Q2316 2SB641
R2360 2200
Q2315
R2358 39K
TP2308
TP2302
C2319 16V10
R2359 5600
R2361 470
C2323 0.01
C2303 25V4.7
L2304 59
C2320 50V1
C2330 47P
J1
C2321 1100P
R2365 470K
Q2317
R2363 390
R2364 47K
J5
R2366 1500
R2367 10K
R2368 10K
C2312 4700P
C2322 4700P
C2311 50V1
R2349 56K
R2348 22K
J4
Q2307
Q2306
Q2305
Q2304
2354 22K
R2353 68K
Q2310
R2335 1K
IC 2304 μPD 1511C
RX2304
R2383 220K
Q2313
Q2308
R2320 39K
R2382 22K
R2351 100K
R2350 22K
R2345 56K
R2320
R2316
R2322
R2323
56K× 4
IC 2301 μPD4066BC
C2308 35V1
C2309 35V1
C2307 35V1
C2306 35V1
IC 2303 μPC35BC
R2333
R2335
R2337
33K × 3
R2331 33K
R2374 1200
R2380 56K
R2381 39K
R2325 39K
IC2307 μPD4011BC
R2357 33K
R2314 22K
R2356 56K
R2373 56K
R2376 1200
R2377 33K
IC2302 μPC35BC
C2327 22V1
R2378 39K
IC2306 μPC35BC
R2315 380K
R2324 56K
R2375 56K
R2372 56K
R2339 10K
C2310 0.001
2311
R2338 150K
RX2303
RX2301
RX2302
R2340
J2
J3
0.01 R2384
R2347 2200
D2303
C2313 0.01
39K×3
R2317
R2319
R2318
J6
Q2309
C2314 50V0.1
R2352 3300
P2302
D6507
J6
R6508 47K
R6507 47K
R6504 220 (1/2W)
D6511
D6502
D6503
D6504
P6501
C6501 50V1
D6501
R6506 220 (1/2W)
Q6503
R6503 10K
R6505 10K
R6502 1500
Q6501
Q6502 2SB641
R6512 470 (1/4W)
Q6509 2SB819
R6511 1K
Q6505
C6503 0.01
R6501 10K
R6510 10K
R6570 10K
P6503
R6517 470 (1/4W)
R6518 1K
C6502 50V1
Q6504
R6514 10K
Q6508
R6516 1K
R6515 10K
R6513 1K
C6505 0.01
C6504 50V1
R6525 470 (1/4W)
Q6506 2SB819
Q6507
R6522 4700
R6532 4700
P6502
C6513 50V 0.47
R6510 10K
Q6513
R6519 1K
Q6512
C6506 50V1
R6523 22K
R6546 560
R6530 470 (1/4W)
R6531 1K
C6507 0.01
R6527 4700
R6520 10K
D6512 RD6.2EB
R6545 2900
R6533 47K
Q6517 2SB819
Q6514 2SB819
R6529 1K
C6509 0.01
R6528 22K
C6511 0.01
R6551 10K
Q6520 2SB641
C6512 50V1
Q6510
D6508
R6541 220K
R6526 1K
Q6515
C6508 50V1
D6510
Q6518
D6506 RD10EB
D6505 RD12EB
R6537 1M
Q6516
IC 6501 AN6914
R6540 220
R6534 22K
R6535 27K
R6536 2200
R6544 100K
R6552 10K
R6550 560
R6521 820 (1/4W)
C6510 50V1
D6513
R6543 10K
Q6519
Q6511
D6509
R6539 3300
R6542 10K
R6549 56K
Q6521
R6548 56K
R6538 470K
D6514
R6547 560

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P6501

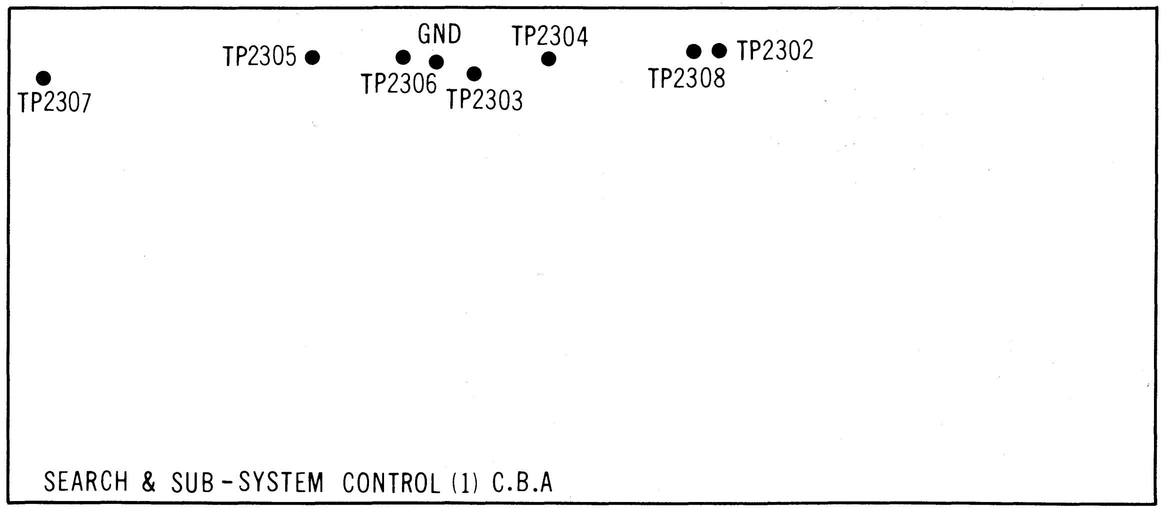
P1523 − 1	1	SENS LED
P1509 − 8	2	SENS LED (GND)
P1514 − 5	3	F LOADING Ⓜ −
P1514 − 6	4	F LOADING Ⓜ +
P6001 − 3	5	BACK UP
P1514 − 4	6	GND
P1523 − 2	7	LOADING Ⓜ −
P1523 − 3	8	LOADING Ⓜ +

P6502

P6014 − 2	1	LOADING END Ⓗ
	2	12V
P1509 − 1	3	TAPE SLACK
P1523 − 4	4	DEW
P1523 − 5	5	GND

P6503

SUB LOADING	1	P6029 − 5
FF/REW LOADING	2	P6029 − 4
GND	3	P6010 − 3
DEW LED	4	P6402 − 4
CAP/CYL LOCK	5	P6029 − 2
AUTO STOP	6	P6029 − 3
UNREG 18V	7	P6010 − 7
LOADING	8	P6020 − 4
LOADING	9	P6020 − 5
FRONT LOADING	10	P6020 − 2
FRONT LOADING	11	P6020 − 1
SENS LED DRIVE	12	P6020 − 3



SEARCH & SUB-SYSTEM CONTROL (1) C.B.A

P6501

P1523 − 1	1	SENS LED
P1509 − 8	2	SENS LED (GND)
P1514 − 5	3	F LOADING Ⓜ −
P1514 − 6	4	F LOADING Ⓜ +
P6001 − 3	5	BACK UP
P1514 − 4	6	GND
P1523 − 2	7	LOADING Ⓜ −
P1523 − 3	8	LOADING Ⓜ +

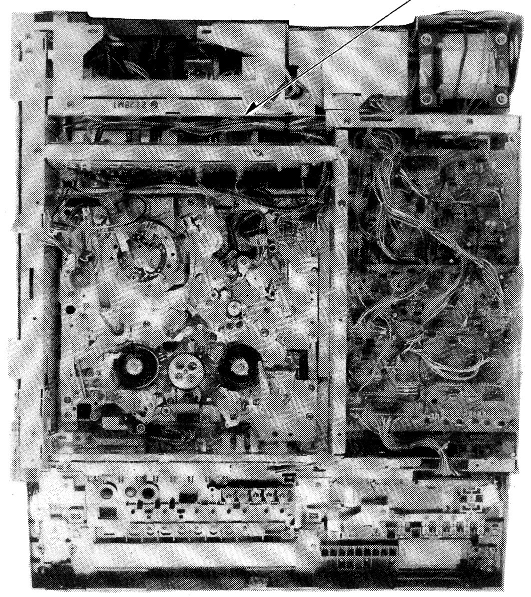
P6502

P6014 − 2	1	LOADING END Ⓗ
	2	12V
P1509 − 1	3	TAPE SLACK
P1523 − 4	4	DEW
P1523 − 5	5	GND

P6503

SUB LOADING	1	P6029 − 5
FF/REW LOADING	2	P6029 − 4
GND	3	P6010 − 3
DEW LED	4	P6402 − 4
CAP/CYL LOCK	5	P6029 − 2
AUTO STOP	6	P6029 − 3
UNREG 18V	7	P6010 − 7
LOADING	8	P6020 − 4
LOADING	9	P6020 − 5
FRONT LOADING	10	P6020 − 2
FRONT LOADING	11	P6020 − 1
SENS LED DRIVE	12	P6020 − 3

Search & Sub-system Control (1) C.B.A.	
Search Section	
Q2304	B-2
Q2305	B-2
Q2306	B-2
Q2307	B-1
Q2308	B-4
Q2309	A-4
Q2310	B-2
Q2311	A-2
Q2312	C-3
Q2313	B-4
Q2315	C-4
Q2316	C-4
Q2317	B-4
Q2318	C-2
IC2301	B-1
IC2302	A-1
IC2303	B-2
IC2304	B-3
IC2305	C-2
IC2306	A-2
IC2307	A-2
Sub-System Control (1) Section	
Q6501	C-6
Q6502	C-6
Q6503	C-5
Q6504	C-6
Q6505	C-6
Q6506	B-6
Q6507	B-6
Q6508	B-6
Q6509	C-6
Q6510	B-5
Q6511	A-5
Q6512	B-6
Q6513	B-6
Q6514	B-6
Q6515	B-6
Q6516	B-6
Q6517	B-5
Q6518	A-5
Q6519	A-6
Q6520	B-5
Q6521	A-5
IC6501	A-6



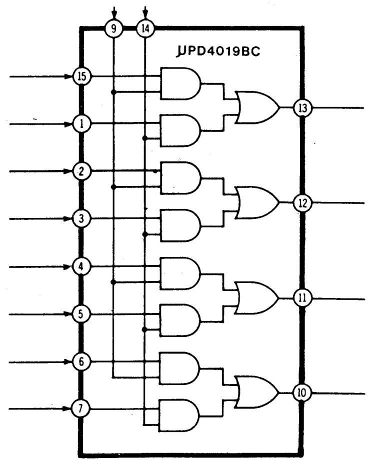
Search & Sub-System Control (I) C.B.A.

SUB-SYSTEM CONTROL (II) ICs VOLTAGE CHART

REF. NO.	IC6701																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.68	4.68	4.68	0.03	0.03	0.04	0.04	4.68	4.71	0.04	0.04	0.04	4.83	0	0	0	0.68	4.24	4.75
PLAY	0	3.78	3.78	3.78	3.78	0.04	0.03	0.04	4.68	4.71	0.04	0.04	0.04	0.04	0	0	0	4.07	4.24	—
REC	0	3.78	3.78	3.78	3.78	0.04	0.04	0.04	4.68	4.71	0.04	0.04	0.04	0.03	0	0	0	4.07	4.24	—
F.F	0	4.67	0.03	4.67	4.67	0.04	0.04	0.04	4.67	4.70	0.04	0.04	0.04	0.04	0	0	0	0.68	4.24	2.42
REW	0	4.67	0.03	4.67	4.67	0.04	0.04	0.04	4.68	4.70	0.04	0.04	0.04	0.04	0	0	0	0.68	4.24	2.43
REF. NO.	IC6701																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0.01	0.05	0.05	0.05	0	0	4.85	0	4.85	0	0.05	4.79	4.81	4.81	4.82	4.83	4.84	4.85	4.86	2.21
PLAY	—	0.05	0.05	0.05	0	4.85	0	0	4.86	0	0.05	3.84	2.91	3.86	2.91	1.96	2.92	2.94	4.86	2.22
REC	—	0.05	0.05	0.05	0.05	0	4.85	0	4.85	0	0.05	3.84	1.96	2.91	1.96	1.97	2.92	1.98	4.86	2.22
F.F	1.92	0.05	0.05	0.05	0.05	0	4.84	0	4.85	0	0.06	4.78	0.06	0.06	0.06	0.06	0.06	0.06	4.86	2.21
REW	1.92	0.05	0.05	0.05	0.05	0	4.82	0	4.85	0	0.06	4.78	0.06	0.06	0.06	0.06	0.06	0.06	4.86	2.21
REF. NO.	IC6702																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	1.88	0	0	0	4.87	0	0	1.63	3.36	0	0.88	2.05	0	0.88						
PLAY	1.88	0	0	0	4.86	0	0	1.62	3.33	0	0.88	2.04	0	0.88						
REC	1.89	0	0	0	4.86	0	0	1.63	3.36	0	0.89	2.05	0	0.89						
F.F	1.89	0	0	0	4.86	0	0	1.62	3.34	0	0.89	2.05	0	0.89						
REW	1.88	0	0	0	4.86	0	0	1.62	3.37	0	0.89	2.06	0	0.89						
REF. NO.	IC6703																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.85	3.96	4.69	3.96	4.69	3.96	4.69	0	4.69	3.99	3.99	3.99	3.99	0.04	3.95	4.86				
PLAY	4.85	3.95	3.78	3.95	3.77	3.96	3.78	0	4.68	3.99	3.99	3.99	3.99	0.04	3.93	4.86				
REC	4.85	3.96	3.78	3.96	3.78	3.96	3.78	0	4.68	3.99	3.99	3.99	3.99	0.04	3.94	4.86				
F.F	4.86	3.96	4.67	3.96	4.68	3.97	4.68	0	4.68	3.99	3.99	4.00	3.99	0.04	3.94	4.86				
REW	4.85	3.95	4.68	3.96	4.68	3.96	4.68	0	4.68	3.99	3.99	4.00	3.99	0.04	3.95	4.87				
REF. NO.	IC6704																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	0.03	1.05	0.05	1.04	4.83	1.04	4.82	0	4.69	1.06	1.06	1.06	3.99	0.04	3.96	4.86				
PLAY	3.78	1.05	3.89	1.04	2.92	2.02	1.96	0	4.68	1.06	1.06	2.01	3.99	0.04	3.96	4.86				
REC	3.78	1.05	1.97	—	2.93	1.04	2.92	0	4.68	1.06	2.02	2.02	3.99	0.04	3.96	4.86				
F.F	0.03	—	0.06	—	0.06	—	0.06	0	4.70	—	—	—	3.99	0.04	3.96	4.87				
REW	0.03	—	0.06	—	0.06	—	0.06	0	4.68	—	—	—	3.99	0.04	3.96	4.87				
REF. NO.	IC6705																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.82	1.04	4.81	1.04	4.81	4.93	4.79	0	4.69	4.86	1.06	1.06	1.06	0.04	1.04	4.86				
PLAY	1.96	—	1.96	—	2.90	2.97	3.84	0	4.68	2.95	1.06	2.97	2.01	0.04	1.04	4.86				
REC	1.96	—	1.96	3.00	2.91	—	3.84	0	4.68	—	2.01	—	—	0.04	—	4.86				
F.F	4.83	—	4.81	—	4.81	—	4.80	0	4.70	—	—	—	—	0.04	—	4.87				
REW	0.06	—	0.06	—	0.06	—	4.79	0	4.68	—	—	—	—	0.04	—	4.87				
REF. NO.	IC6706																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
STOP	4.81	1.06	1.06	1.06	1.06	1.06	1.06	4.86	—	4.86	—	−1.22	−1.21	−1.23	−1.21	−1.31	−1.27	—		
PLAY	1.17	2.02	1.06	1.06	—	—	—	—	—	4.86	—	—	—	—	—	1.25	−1.22	3.74		
REC	1.17	2.02	1.06	1.06	—	—	—	—	—	4.86	—	—	—	—	—	—	−1.32	3.74		
F.F	1.18	—	—	—	—	—	—	—	—	4.87	—	—	—	—	—	—	—	3.75		
REW	1.18	—	—	—	—	—	—	—	—	4.87	—	—	0	—	—	—	—	3.74		
REF. NO.	IC6901																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	5.76	0	0	0.03	5.67	3.32	4.79	3.32	6.46	0	0	0.06	11.97	3.97	5.37	8.15				
PLAY	—	0	0	0.03	—	0.62	4.79	0.62	6.45	0	0	0.01	11.97	3.98	5.37	—				
REC	—	0	0	0.03	1.64	0.59	4.79	0.59	6.45	0	0	0.01	12.00	3.98	5.37	—				
F.F	5.75	0	0	0.02	2.93	3.31	4.80	3.31	6.46	0	0	0.06	11.96	3.97	5.37	8.14				
REW	5.75	0	0	0.02	2.93	3.30	4.80	3.30	6.45	0	0	0.06	11.96	3.97	5.37	8.14				
REF. NO.	IC6902																			
MODE	1	2	3	4	5	6	7	8												
STOP	—	0	0	−12.0	5.11	0	11.22	11.98												
PLAY	—	0	0	−12.0	5.10	—	11.22	11.97												
REC	—	0	0	−12.0	5.12	—	11.26	12.01												
F.F	11.43	−0.07	0	−12.0	5.10	0.58	11.20	11.96												
REW	10.43	−0.07	0	−12.0	5.10	0.58	11.21	11.97												
REF. NO.	IC6903																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	4.81	4.81	0.04	4.79	0	0	0	0	0	4.84	0	3.23	3.23	4.86						
PLAY	4.81	4.81	0.04	4.79	0	4.83	0	0	4.83	4.84	4.83	0.02	0.02	4.86						
REC	4.81	4.81	0.04	4.79	0	4.83	0	0	4.83	4.85	4.83	0.01	0.01	4.86						
F.F	4.82	4.82	0.04	4.79	0	0	0	0	0	4.85	0	3.21	3.21	4.87						
REW	4.82	4.82	0.04	4.79	0	0	0	0	0	4.85	0	3.21	3.21	4.87						
REF. NO.	IC6904																			
MODE	1	2	3	4	5	6	7	8												
STOP	11.98	0	0.94	0	0.69	0.01	0	0												
PLAY	11.97	0	0.56	0	0.69	—	0	0												
REC	12.01	0	0.49	0	0.69	—	0	0												
F.F	11.96	0	0.11	0	0.69	5.08	0	0												
REW	11.97	0	0.10	0	0.69	5.08	0	0												

SUB-SYSTEM CONTROL (II) TRANSISTORs VOLTAGE CHART

REF. NO.	Q6701			Q6702			Q6703			Q6704			Q6705			Q6706		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	1.17	4.86	0.04	4.86	−16.43	4.73	4.86	−16.34	4.74	4.86	—	4.74	4.86	—	4.73	4.86	—	4.73
PLAY	1.17	4.87	0.04	4.86	−16.69	4.74	4.86	−16.72	4.74	4.86	—	4.74	4.86	—	4.74	4.86	—	4.74
REC	4.82	4.87	0.04	4.87	−16.50	4.74	4.87	−16.60	4.74	4.87	−16.6	4.74	4.87	−16.7	4.74	4.86	−16.6	4.74
F.F	4.82	4.86	0.04	4.86	−16.60	4.74	4.87	−16.60	4.74	4.86	−16.6	4.74	4.86	−16.7	4.74	4.86	−16.7	4.74
REW	4.82	4.86	0.04	4.86	−16.60	4.74	4.86	−16.70	4.74	4.86	−16.6	4.74	4.86	−16.7	4.74	4.86	−16.7	4.74
REF. NO.	Q6707			Q6708			Q6709			Q6710			Q6711			Q6712		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	4.86	—	4.78	2.66	4.86	3.29	0	1.88	0.35	2.21	4.86	1.86	0	0.68	0	0	0	0.67
PLAY	4.87	—	4.78	2.66	4.86	3.29	0	1.89	0.35	2.21	4.86	1.86	0	4.07	0	0	0	0.67
REC	4.87	−21.3	4.79	2.68	4.87	3.31	0	1.92	0.35	2.21	4.86	1.86	0	2.98	0	0	0.01	0.67
F.F	4.86	−21.3	4.78	2.68	4.86	3.30	0	1.91	0.35	2.21	4.86	1.86	0	0.68	0	0	0.01	0.67
REW	4.86	−21.3	4.78	2.68	4.86	3.30	0	1.91	0.35	2.21	4.86	1.86	0	0.68	0	0	0.01	0.67
REF. NO.	Q6713			Q6901			Q6902			Q6903			Q6904			Q6905		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.67	0.54	0	0	0.63	0	0.69	0	0	0.02	0.69	0	—	0	0	—	0
PLAY	0	0.67	0.54	0	0	0.63	0	0.69	0	0	0.02	0.69	0	—	0	0	—	0
REC	0	0.67	0.56	0	0	0.63	0	0.69	0	0	0.02	0.69	0	16.8	0	0	16.8	0
F.F	0	0.67	0.55	0	0	0.63	0	0.69	0	0	0.02	0.69	0	16.9	0	0	16.9	0
REW	0	0.67	0.55	0	0	0.63	0	0.69	0	0	0.02	0.69	0	16.9	0	0	16.9	0
REF. NO.	Q6906			Q6907			Q6908			Q6909			Q6910			Q6911		
MODE	E	C	B	E	C	B	E	C	B	D	S	G	E	C	B	E	C	B
STOP	0	—	0	0	—	0.02	0	0.03	0.63	0.06	0	11.36	0	11.35	0	0	0.67	0
PLAY	0	—	0	0	—	0.02	0	—	0.36	0	—	—	0	—	0	0	2.98	0
REC	0	16.8	0	0	16.8	0.02	0	8.00	0.37	0	—	11.20	0	11.20	0.01	0	2.98	0
F.F	0	16.8	0	0	16.8	0.02	0	7.34	0.36	0	10.2	11.40	0	11.40	0	0	2.97	0
REW	0	16.9	0	0	16.9	0.02	0	4.11	0.47	−0.06	10.4	11.40	0	11.30	0	0	2.98	0
REF. NO.	Q6912			Q6913			Q6914			Q6915			Q6916			Q6917		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.03	0.60	0	0.01	0.64	0	3.18	0	4.86	0.14	4.83	0	4.86	0	0	0.19	0.08
PLAY	0	0.03	0.60	0	0.01	0.63	0	—	0	4.86	0.14	4.84	0	4.86	0	0	0.19	0.08
REC	0	0.03	0.60	0	0.01	0.64	0	1.18	0	4.86	0.14	4.84	0	4.86	0	0	0.19	0.08
F.F	0	0.03	0.60	0	0.01	0.64	0	1.16	0	4.86	0.14	4.83	0	4.86	0	0	0.19	0.08
REW	0	0.03	0.60	0	0.01	0.63	0	1.16	0	4.86	0.14	4.83	0	4.86	0	0	0.19	0.08
REF. NO.	Q6918			Q6919			Q6920			Q6921			Q6922			Q6923		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.08	0.07	0	0	0.61	4.86	0.79	4.83	0	0.03	0.63	0	0.39	0.09	0	0.09	0
PLAY	0	0.08	0.07	0	—	0	4.86	0.37	4.84	0	0.03	0.63	0	0.19	0.09	0	0.09	0
REC	0	0.08	0.07	0	0.02	0.63	4.86	1.46	4.83	0	0.03	0.63	0	0.60	0.09	0	0.09	0
F.F	0	0.08	0.07	0	0.06	0.66	4.86	1.27	4.83	0	0.04	0.63	0	0.60	0.09	0	0.09	0
REW	0	0.08	0.07	0	0.06	0.66	4.86	1.27	4.83	0	0.04	0.63	0	0.60	0.09	0	0.09	0


μPD4019BC
9
14
15
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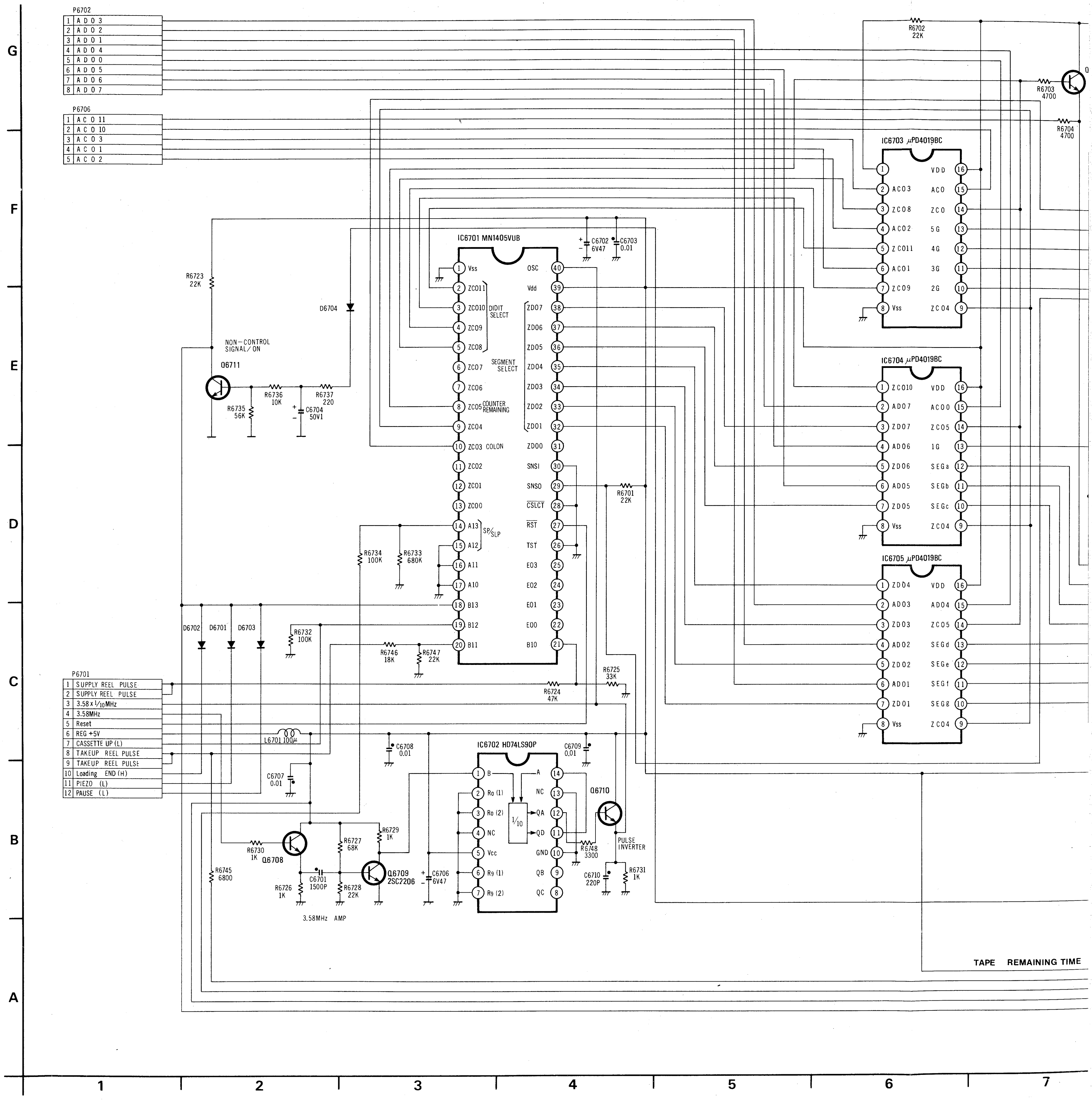
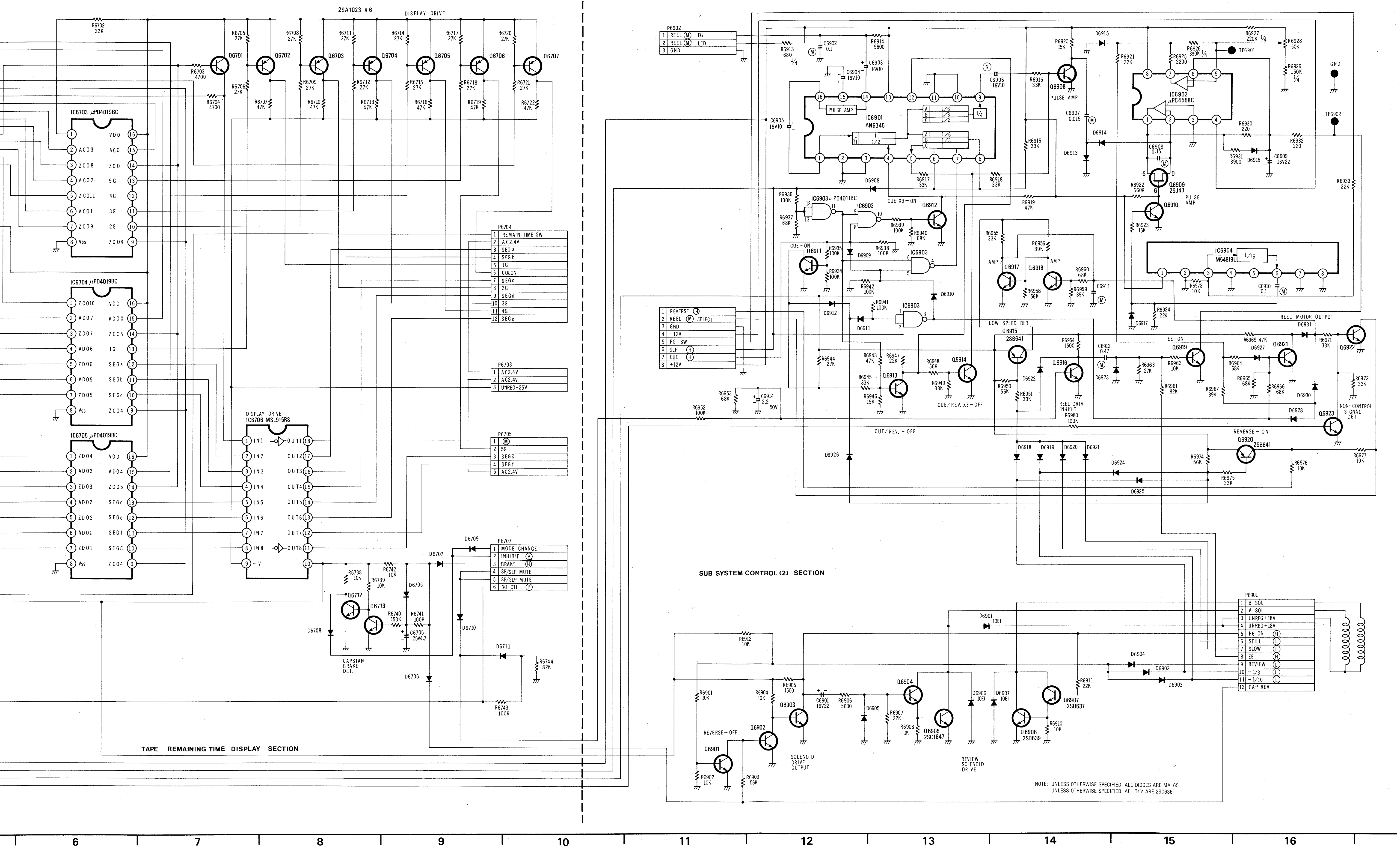
SUB-SYSTEM CONTROL (2) & TAPE REMAINING TIME DISPLAY SCHEMA


G
F
E
D
C
B
A
1
2
3
4
5
6
7
P6702
1 AD0 3
2 AD0 2
3 AD0 1
4 AD0 4
5 AD0 0
6 AD0 5
7 AD0 6
8 AD0 7
P6706
1 AC0 11
2 AC0 10
3 AC0 3
4 AC0 1
5 AC0 2
IC6701 MN1405VUB
Vss
ZC011
ZC010
DIDIT SELECT
ZC09
ZC08
ZC07
SEGMENT SELECT
ZC06
ZC05
COUNTER REMAINING
ZC04
ZC03 COLON
ZC02
ZC01
ZC00
A13
SP/SLP
A12
A11
A10
B13
B12
B11
OSC
Vdd
ZD07
ZD06
ZD05
ZD04
ZD03
ZD02
ZD01
ZD00
SNSI
SNSO
CSLCT
RST
TST
E03
E02
E01
E00
B10
C6702 6V47
C6703 0.01
R6723 22K
D6704
NON−CONTROL SIGNAL/ON
Q6711
R6736 10K
R6737 220
R6735 56K
C6704 50V1
R6701 22K
R6734 100K
R6733 680K
D6702
D6701
D6703
R6732 100K
R6746 18K
R6747 22K
R6725 33K
R6724 47K
P6701
1 SUPPLY REEL PULSE
2 SUPPLY REEL PULSE
3 3.58 x 1/10 MHz
4 3.58MHz
5 Reset
6 REG +5V
7 CASSETTE UP (L)
8 TAKEUP REEL PULSE
9 TAKEUP REEL PULSE
10 Loading END (H)
11 PIEZO (L)
12 PAUSE (L)
L6701 100μ
C6707 0.01
C6708 0.01
IC6702 HD74LS90P
B
A
R0 (1)
R0 (2)
NC
Vcc
R9 (1)
R9 (2)
1/10
QA
QD
GND
QB
QC
C6709 0.01
Q6710
R6748 3300
PULSE INVERTER
C6710 220P
R6731 1K
R6730 1K
Q6708
R6727 68K
R6729 1K
R6726 1K
C6701 1500P
R6728 22K
Q6709 2SC2206
C6706 6V47
3.58MHz AMP
R6745 6800
R6702 22K
R6703 4700
R6704 4700
IC6703 μPD4019BC
VDD
AC03
AC0
ZC08
ZC0
AC02
5G
ZC011
4G
AC01
3G
ZC09
2G
Vss
ZC04
IC6704 μPD4019BC
ZC010
AC00
AD07
ZD07
ZC05
AD06
1G
ZD06
SEGa
AD05
SEGb
ZD05
SEGc
IC6705 μPD4019BC
ZD04
AD03
AD04
ZD03
AD02
SEGd
ZD02
SEGe
AD01
SEGf
ZD01
SEGg
TAPE REMAINING TIME

E DISPLAY SCHEMATIC DIAGRAM


2SA1023 X 6
DISPLAY DRIVE
R6702 22K
Q6701
Q6702
Q6703
Q6704
Q6705
Q6706
Q6707
R6703 4700
R6704 4700
IC6703 μPD4019BC
IC6704 μPD4019BC
IC6705 μPD4019BC
DISPLAY DRIVE
IC6706 MSL915RS
P6704
1 REMAIN TIME SW
2 AC2.4V
3 SEG a
4 SEG b
5 1G
6 COLON
7 SEGc
8 2G
9 SEGd
10 3G
11 4G
12 SEGe
P6703
1 AC2.4V
2 AC2.4V
3 UNREG-25V
P6705
1 Ⓜ
2 5G
3 SEG g
4 SEG f
5 AC2.4V
P6707
1 MODE CHANGE
2 INHIBIT Ⓗ
3 BRAKE Ⓗ
4 SP/SLP MUTE
5 SP/SLP MUTE
6 NO CTL Ⓗ
Q6712
Q6713
CAPSTAN BRAKE DET.
TAPE REMAINING TIME DISPLAY SECTION
P6902
1 REEL Ⓜ FG
2 REEL Ⓜ LED
3 GND
IC6901 AN6345
PULSE AMP
Q6908
IC6902 μPC4558C
TP6901
GND
TP6902
Q6909 2SJ43
Q6910
PULSE AMP
IC6903 μPD4011BC
CUE X3 – ON
Q6912
CUE – ON
Q6911
Q6917
Q6918
AMP
IC6904 M54819L
1 REVERSE Ⓗ
2 REEL Ⓜ SELECT
3 GND
4 –12V
5 PG SW
6 SLP Ⓗ
7 CUE Ⓗ
8 +12V
LOW SPEED DET
Q6915 2SB641
Q6914
Q6913
Q6916
CUE/REV. X3 – OFF
CUE/REV. – OFF
REEL DRIV INHIBIT
EE – ON
Q6919
Q6921
REEL MOTOR OUTPUT
Q6922
NON-CONTROL SIGNAL DET
Q6923
REVERSE – ON
Q6920 2SB641
SUB SYSTEM CONTROL (2) SECTION
P6901
1 B SOL
2 A SOL
3 UNREG+18V
4 UNREG+18V
5 PG ON Ⓗ
6 STILL Ⓛ
7 SLOW Ⓛ
8 EE Ⓗ
9 REVIEW Ⓛ
10 – 1/3 Ⓛ
11 – 1/10 Ⓛ
12 CAP REV
Q6904
Q6907 2SD637
Q6905 2SC1847
Q6906 2SD639
Q6903
Q6502
Q6901
REVERSE – OFF
SOLENOID DRIVE OUTPUT
REVIEW SOLENOID DRIVE
6
7
8
9
10
11
12
13
14
15
16

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P6701 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Supply Reel Pulse	P6022-4 System Control C.B.A
2	Supply Reel Pulse	P1509-5 Inter Connection
3	358kHz	P6030-7 System Control C.B.A
4	3.58MHz	P2502-7 Pattern Generator C.B.A
5	Reset	P6031-2 System Control C.B.A
6	REG 5V	P2502-9 Pattern Generator C.B.A
7	Cassette Up (L)	P6004-7 System Control C.B.A
8	Takeup Reel Pulse	P6022-3 System Control C.B.A
9	Takeup Reel Pulse	P1509-7 Inter Connection
10	Loading End (H)	P6014-3 System Control C.B.A
11	Piezo (L)	P3502-12 V-Dancing COMP (I) Section
12	Pause (L)	P6016-5 System Control C.B.A

P6702 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	D3	P6801-3 Counter & Index (II) Section
2	D2	P6801-2 Counter & Index (II) Section
3	D1	P6801-1 Counter & Index (II) Section
4	D4	P6801-4 Counter & Index (II) Section
5	Cϕ	P6802-1 Counter & Index (II) Section
6	D5	P6801-5 Counter & Index (II) Section
7	D6	P6801-6 Counter & Index (II) Section
8	D7	P6801-7 Counter & Index (II) Section

P6703 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	AC 2.4V	P1007-2 Power Supply C.B.A
2	AC 2.4V	P1007-1 Power Supply C.B.A
3	UNREG −25V	P1007-3 Power Supply C.B.A

P6704 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Remaining Time	1 Operation (II) C.B.A
2	AC 2.4V	2 Operation (II) C.B.A
3	SEG A	3 Operation (II) C.B.A
4	SEG B	4 Operation (II) C.B.A
5	SEG G	5 Operation (II) C.B.A
6	Colon	6 Operation (II) C.B.A
7	SEG C	7 Operation (II) C.B.A
8	2G	8 Operation (II) C.B.A
9	SEG D	9 Operation (II) C.B.A
10	3G	10 Operation (II) C.B.A
11	4G	11 Operation (II) C.B.A
12	SEGE	12 Operation (II) C.B.A

P6705 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	(M)	1 Operation (II) C.B.A
2	5G	2 Operation (II) C.B.A
3	SEG G	3 Operation (II) C.B.A
4	SEG F	4 Operation (II) C.B.A
5	AC 2.4V	5 Operation (II) C.B.A

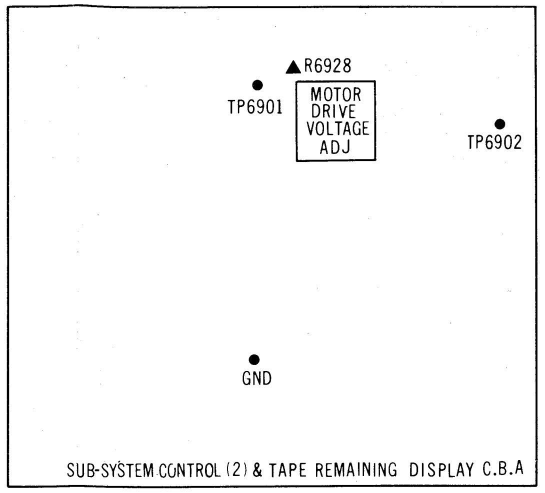
P6706 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	C11	P6802-10 Control & Index (II) Section
2	C10	P6802-9 Control & Index (II) Section
3	C3	P6802-4 Control & Index (II) Section
4	C1	P6802-2 Control & Index (II) Section
5	C2	P6802-3 Control & Index (II) Section

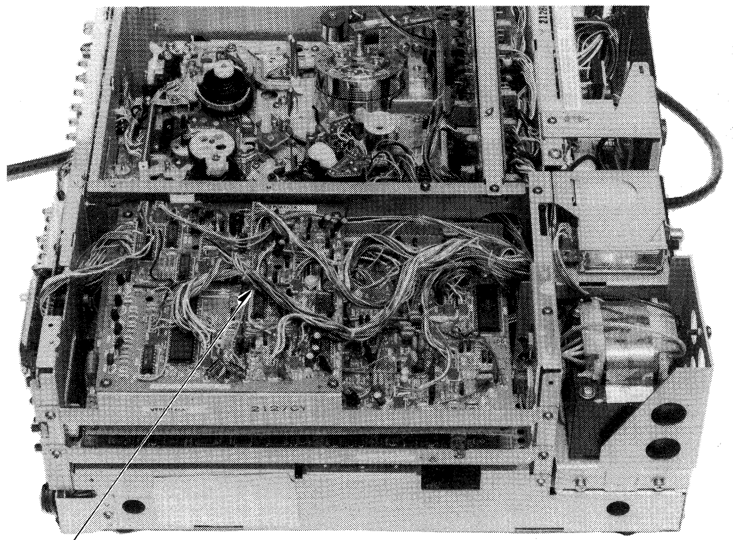
P6707 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Mode Change	P6014-4 System Control C.B.A
2	Inhibit	P2302-7 Search Section
3	Cap Brake	P6023-3 System Control C.B.A
4	SP/SLP Mute	P6016-8 System Control C.B.A
5	SP/SLP Mute	P4005-6 Audio & V-Dancing COMP (I) C.B.A
6	LSI Control	P2509-6 Pattern Generator C.B.A

P6901 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	B SOL	P1521-2 Inter Connection
2	A SOL	P1521-1 Inter Connection
3	C SOL	P1521-3 Inter Connection
4	UNREG 15	P6010-9 System Control C.B.A
5	P6 (H)	P2509-5 Pattern Generator C.B.A
6	Still (L)	P6015-4 System Control C.B.A
7	Slow (L)	P2502-10 Pattern Generator C.B.A
8	EE/VV (L)	P6302-11 Operation (I) C.B.A
9	REV (L)	P6030-1 System Control C.B.A
10	−1/3 (L)	P6030-2 System Control C.B.A
11	−/10 (L)	P6030-3 System Control C.B.A
12	Cap Review	P6023-2 System Control C.B.A

P6902 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Reel (M) FG	P1524-2 Reel Motor
2	Reel (M) LED	P1524-4 Reel Motor
3	GND	P1524-3 Reel Motor

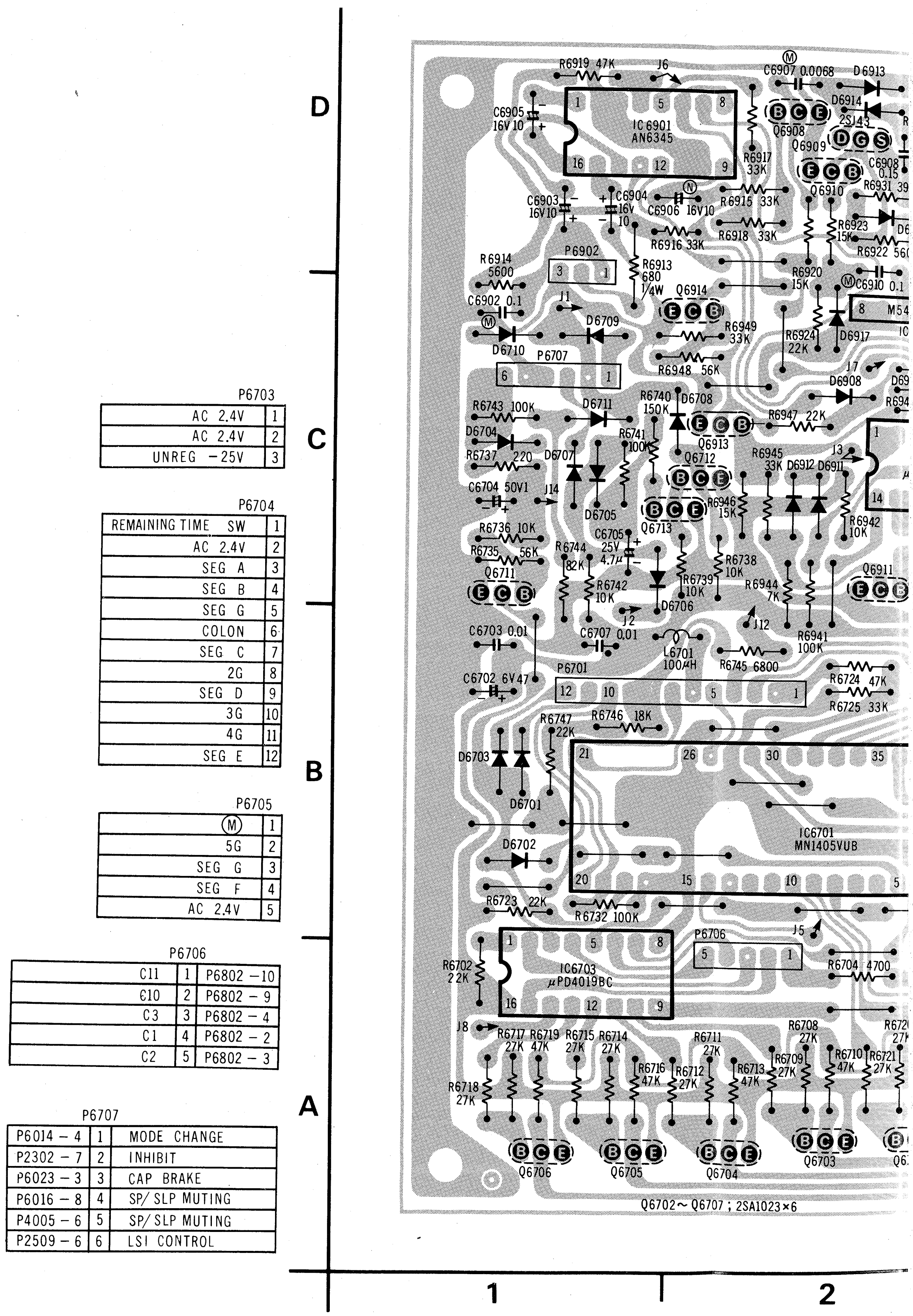
P6903 (Remaining Tape Time Display & Sub System Control (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Reverse	P6030-5 System Control C.B.A
2	Reel Select	P6030-4 System Control C.B.A
3	GND	P2502-8 Pattern Generator C.B.A
4	−12V	P2510-1 Pattern Generator C.B.A
5	PG SW	P2510-3 Pattern Generator C.B.A
6	SLP (H)	P6012-4 System Control C.B.A
7	CUE (H)	P6013-8 System Control C.B.A
8	12V	P6030-6 System Control C.B.A


▲R6928
MOTOR DRIVE VOLTAGE ADJ
TP6901
TP6902
GND
SUB-SYSTEM CONTROL (2) & TAPE REMAINING DISPLAY C.B.A


Sub-System Control (2) & Tape Remaining Display C.B.A.

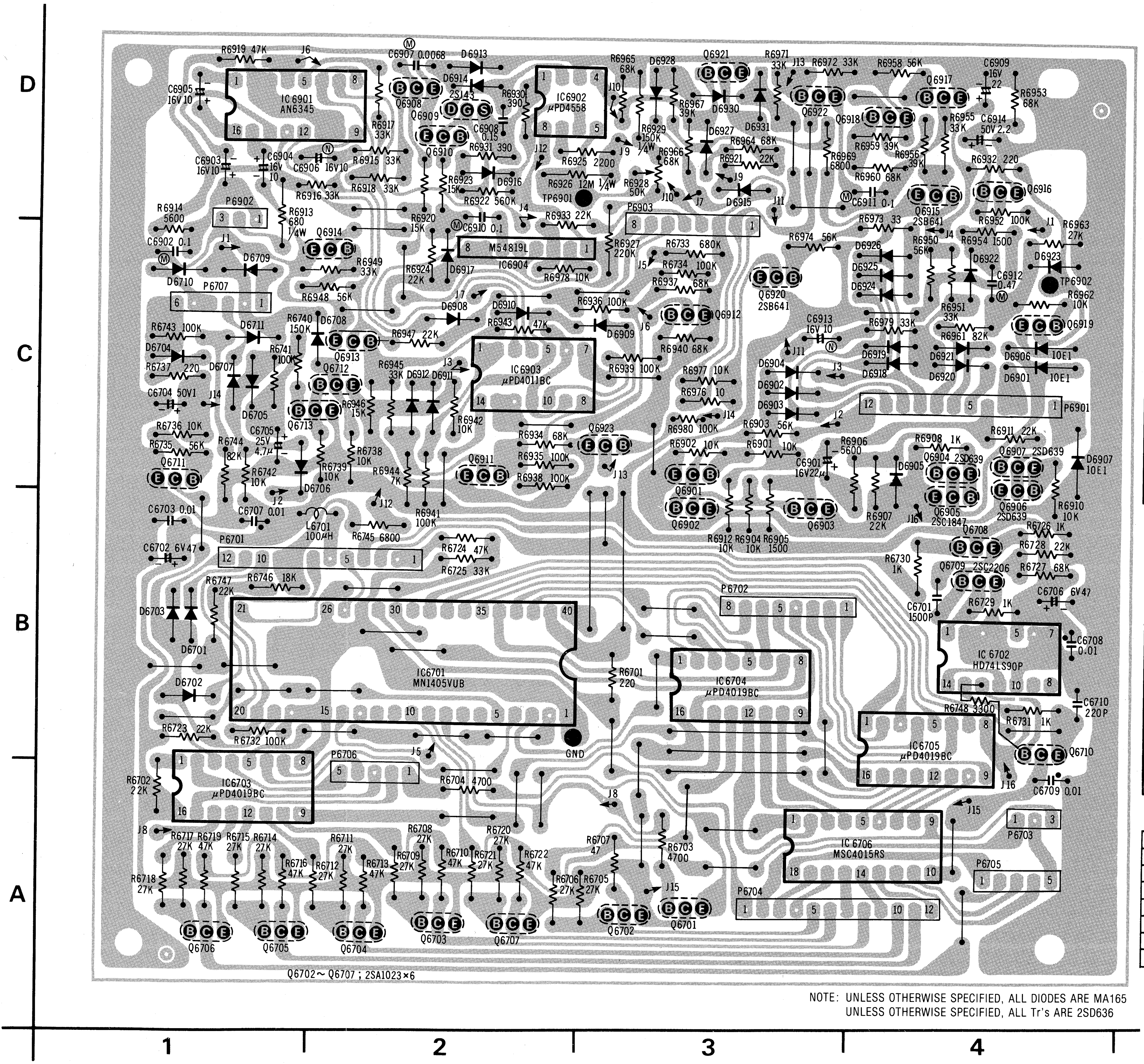
Sub-System Control (II) & Tape Remaining Display C.B.A.	
Sub-System Control (II) Section	
Q6901	C-3
Q6902	B-3
Q6903	B-3
Q6904	C-4
Q6905	C-4
Q6906	C-4
Q6907	C-4
Q6908	D-2
Q6909	D-2
Q6910	D-2
Q6911	C-2
Q6912	C-3
Q6913	C-2
Q6914	C-2
Q6915	D-4
Q6916	D-4
Q6917	D-4
Q6918	D-4
Q6919	C-4
Q6920	C-3
Q6921	D-3
Q6922	D-3
Q6923	C-3
IC6901	D-1
IC6902	D-2
IC6903	C-2
IC6904	C-2
Tape Remaining Display Section	
Q6701	A-3
Q6702	A-3
Q6703	A-2
Q6704	A-2
Q6705	A-1
Q6706	A-1
Q6707	A-2
Q6708	B-4
Q6709	B-4
Q6710	B-4
IC6701	B-2
IC6702	B-4
IC6703	A-1
IC6704	B-3
IC6705	B-4
IC6706	A-4

SUB-SYSTEM CONTROL (2) & TAPE REMAININ


D
C
B
A
1
2
P6703
AC 2.4V 1
AC 2.4V 2
UNREG −25V 3
P6704
REMAINING TIME SW 1
AC 2.4V 2
SEG A 3
SEG B 4
SEG G 5
COLON 6
SEG C 7
2G 8
SEG D 9
3G 10
4G 11
SEG E 12
P6705
(M) 1
5G 2
SEG G 3
SEG F 4
AC 2.4V 5
P6706
C11 1 P6802 −10
C10 2 P6802 − 9
C3 3 P6802 − 4
C1 4 P6802 − 2
C2 5 P6802 − 3
P6707
P6014 − 4 1 MODE CHANGE
P2302 − 7 2 INHIBIT
P6023 − 3 3 CAP BRAKE
P6016 − 8 4 SP/ SLP MUTING
P4005 − 6 5 SP/ SLP MUTING
P2509 − 6 6 LSI CONTROL
IC6901 AN6345
IC6701 MN1405VUB
IC6703 μPD4019BC
R6919 47K
J6
C6907 0.0068
D6913
C6905 16V 10
Q6908
Q6909
2SA143
R6917 33K
C6908 0.15
Q6910
R6931 39
C6903 16V10
C6904 16V 10
C6906 16V10
R6915 33K
R6918 33K
R6916 33K
R6923 15K
R6922 56
R6914 5600
P6902
R6913 680 1/4W
R6920 15K
C6910
C6902 0.1
J1
Q6914
D6709
R6949 33K
R6924 22K
D6917
D6710
P6707
R6948 56K
D6908
P6703
R6740 150K
D6708
R6743 100K
D6711
R6947 22K
D6704
R6741 100K
Q6913
Q6912
R6945 33K
D6912
D6911
J3
R6737 220
D6707
C6704 50V1
J14
D6705
R6946 15K
R6942 10K
Q6713
R6736 10K
R6735 56K
R6744 82K
C6705 25V 4.7μ
R6738 10K
Q6711
R6742 10K
R6739 10K
R6944 7K
Q6911
D6706
J2
J12
C6703 0.01
C6707 0.01
L6701 100μH
R6745 6800
R6941 100K
C6702 6V47
P6701
R6724 47K
R6725 33K
R6747 22K
R6746 18K
D6703
D6701
D6702
R6723 22K
R6732 100K
P6706
J5
R6702 22K
R6704 4700
J8
R6717 27K
R6719 47K
R6715 27K
R6714 27K
R6711 27K
R6708 27K
R6716 47K
R6712 27K
R6713 27K
R6709 27K
R6710 47K
R6721 27K
R6718 27K
Q6706
Q6705
Q6704
Q6703
Q6702~Q6707 ; 2SA1023×6

EM CONTROL (2) & TAPE REMAINING TIME DISPLAY C.B.A. (VEP06162A)

SUB-SYSTEM CONTROL (3) C.B.A. (V


D
C
B
A
1
2
3
4
IC6901 AN6345
IC6902 μPD4558
IC6903 μPD4011BC
IC6904 M54819L
IC6701 MN1405VUB
IC6702 HD74LS90P
IC6703 μPD4019BC
IC6704 μPD4019BC
IC6705 μPD4019BC
IC6706 MSC4015RS
P6901
P6902
P6903
P6701
P6702
P6703
P6704
P6705
P6706
P6707
TP6901
TP6902
GND
Q6920 2SB641
Q6915 2SB641
Q6909 2SJ43
Q6904 2SD639
Q6907 2SD639
Q6906 2SD639
Q6905 2SC1847
Q6709 2SC2206
L6701 100μH
Q6702~Q6707 ; 2SA1023×6

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P6901

P1521 – 2	1	B SOL	
P1521 – 1	2	A SOL	
P1521 – 3	3	C SOL	
P6010 – 9	4	UNREG 18V	
P2509 – 5	5	SLP	Ⓗ
P6015 – 4	6	STILL	Ⓛ
P2502 – 10	7	SLOW	Ⓛ
P6302 – 11	8	EE/VV	Ⓛ
P6030 – 1	9	REV	Ⓛ
P6030 – 2	10	–1/3	Ⓛ
P6030 – 3	11	–1/10	Ⓛ
P6023 – 2	12	CAP REVIEW	

P6902

P1524 – 2	1	REEL.M FG
P1524 – 4	2	REEL.M LED
P1524 – 3	3	GND

P6903

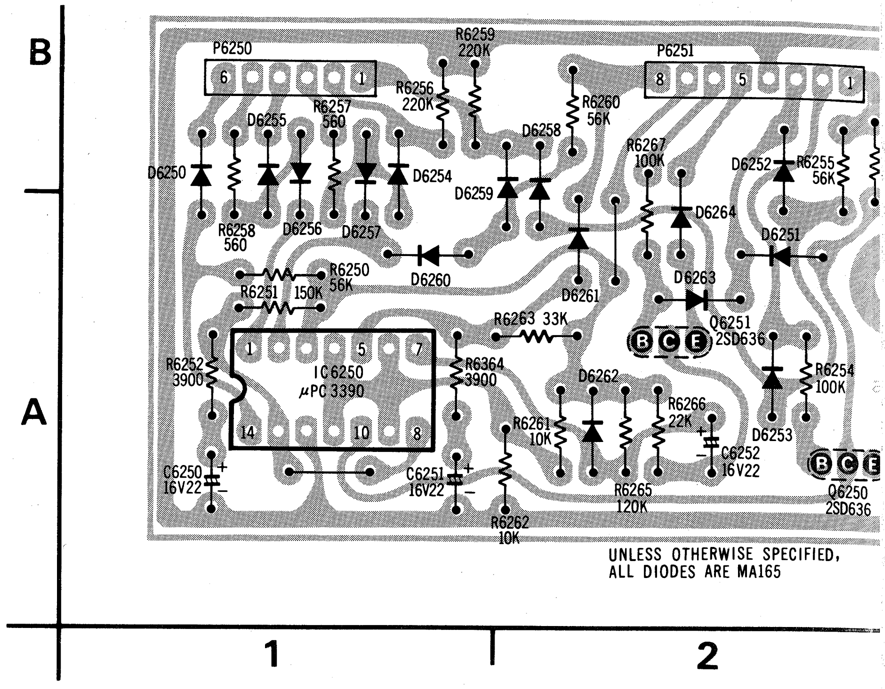
P6030 – 5	1	REVERSE	
P6030 – 4	2	REEL SELECT	
P2502 – 8	3	GND	
P2510 – 1	4	–12V	
P2510 – 3	5	PG SW	
P6012 – 4	6	SLP	Ⓗ
P6013 – 8	7	CUE	Ⓗ
P6030 – 6	8	12V	

P6701

SUPPLY REEL PULSE	1	P6022 – 4
SUPPLY REEL PULSE	2	P1509 – 5
358KHz	3	P6030 – 7
3.58MHz	4	P2502 – 7
RESET	5	P6031 – 2
REG 5V	6	P2502 – 9
CASSETTE UP Ⓛ	7	P6004 – 7
TAKEUP REEL PULSE	8	P6022 – 3
TAKEUP REEL PULSE	9	P1509 – 7
LOADING END Ⓗ	10	P6014 – 3
PIEZO Ⓛ	11	P3502 – 12
PAUSE Ⓛ	12	P6016 – 5

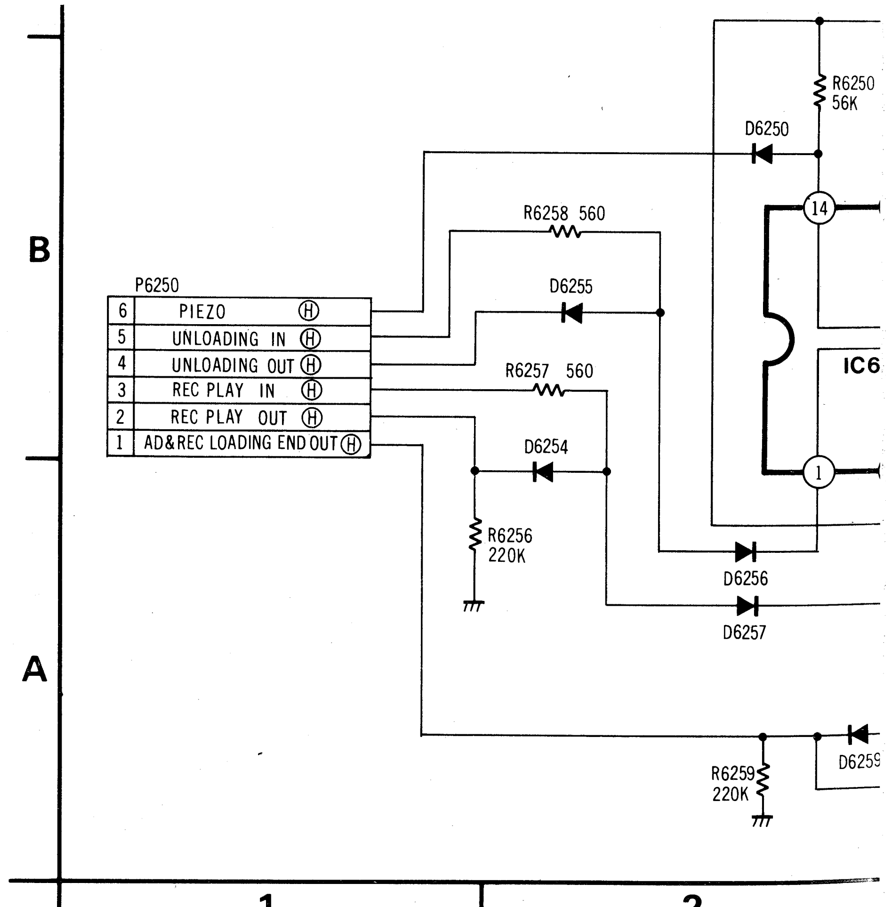
P6702

D3	1	P6801 – 3
D2	2	P6801 – 2
D1	3	P6801 – 1
D4	4	P6801 – 4
C0	5	P6802 – 1
D5	6	P6801 – 5
D6	7	P6801 – 6
D7	8	P6801 – 7

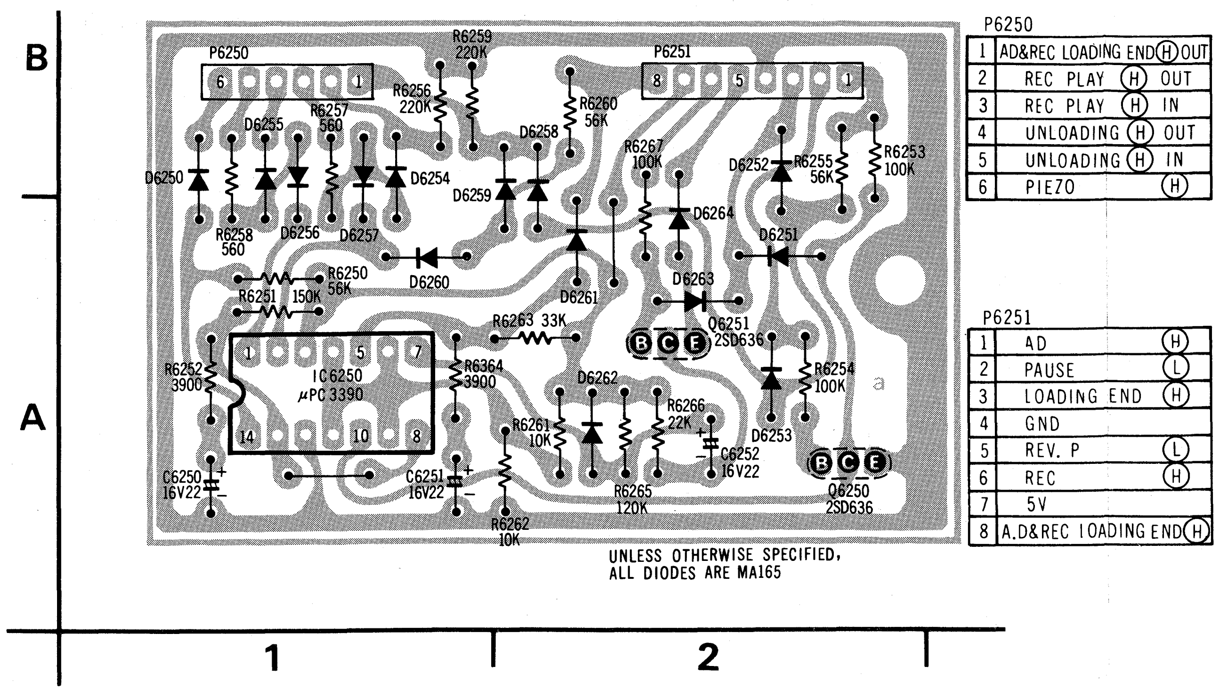

B
A
1
2
P6250
P6251
IC6250 μPC3390
Q6250 2SD636
Q6251 2SD636
C6250 16V22
C6251 16V22
C6252 16V22

UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

SUB-SYSTEM CONTROL (3) SCHEM


B
A
1
2
P6250
6 PIEZO Ⓗ
5 UNLOADING IN Ⓗ
4 UNLOADING OUT Ⓗ
3 REC PLAY IN Ⓗ
2 REC PLAY OUT Ⓗ
1 AD&REC LOADING END OUT Ⓗ
R6250 56K
R6258 560
R6257 560
R6256 220K
R6259 220K
D6250
D6255
D6254
D6256
D6257
D6259
IC6

SUB-SYSTEM CONTROL (3) C.B.A. (VEP06163A)


B
A
1
2
P6250
P6251
R6259 220K
R6256 220K
R6257 560
R6260 56K
R6267 100K
R6255 56K
R6253 100K
D6250
D6255
D6254
D6258
D6259
D6252
D6264
D6251
R6258 560
D6256
D6257
R6250 56K
R6251 150K
D6260
D6261
D6263
R6263 33K
Q6251 2SD636
R6252 3900
IC6250 μPC 3390
R6364 3900
D6262
R6254 100K
R6261 10K
R6266 22K
D6253
C6250 16V22
C6251 16V22
R6262 10K
R6265 120K
C6252 16V22
Q6250 2SD636
B C E
1 AD&REC LOADING END (H) OUT
2 REC PLAY (H) OUT
3 REC PLAY (H) IN
4 UNLOADING (H) OUT
5 UNLOADING (H) IN
6 PIEZO (H)
1 AD (H)
2 PAUSE (L)
3 LOADING END (H)
4 GND
5 REV. P (L)
6 REC (H)
7 5V
8 A.D&REC LOADING END (H)

UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

P6250 (Sub System Control (III) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	AD & REC Loading End (H) Out	System Control C.B.A
2	REC Play (H) Out	System Control C.B.A
3	REC Play (H) In	System Control C.B.A
4	Unloading (H) Out	System Control C.B.A
5	Unloading (H) In	System Control C.B.A
6	Piezo DL (H)	System Control C.B.A

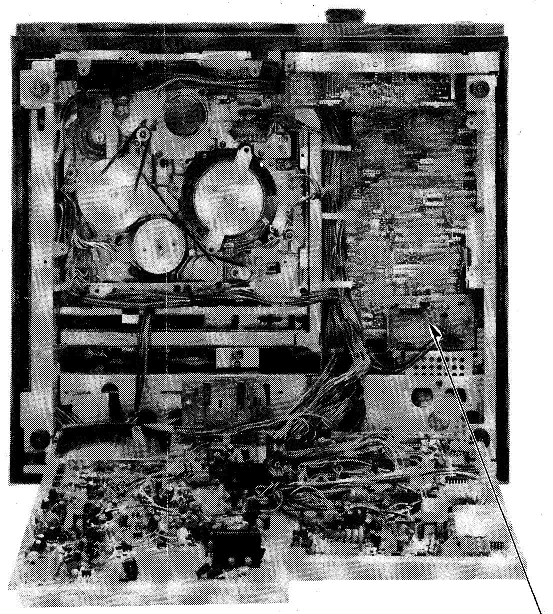
P6251 (Sub System Control (III) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	AD	System Control C.B.A
2	Pause	System Control C.B.A
3	Loading End	System Control C.B.A
4	GND	System Control C.B.A
5	REV P	System Control C.B.A
6	REC	System Control C.B.A
7	5V	System Control C.B.A
8	AD & RFC Loading End (H)	System Control C.B.A

SUB-SYSTEM CONTROL (III) ICs VOLTAGE CHART

REF. NO.	IC6250													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.31	0	5.01	2.50	0.58	2.50	4.96	4.94	2.50	0.01	2.50	0	4.93	0.01
PLAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—
REC	0.22	1.11	5.01	2.50	4.83	2.50	4.99	4.99	2.50	0.01	2.50	0	4.94	0.01
F.F	0.35	0	5.01	2.50	0.58	2.50	4.98	4.99	2.50	0.01	2.50	0	4.95	0.01
REW	0.36	0.01	5.01	2.50	0.58	2.51	4.97	4.98	2.50	0.01	2.50	0	4.95	0.01

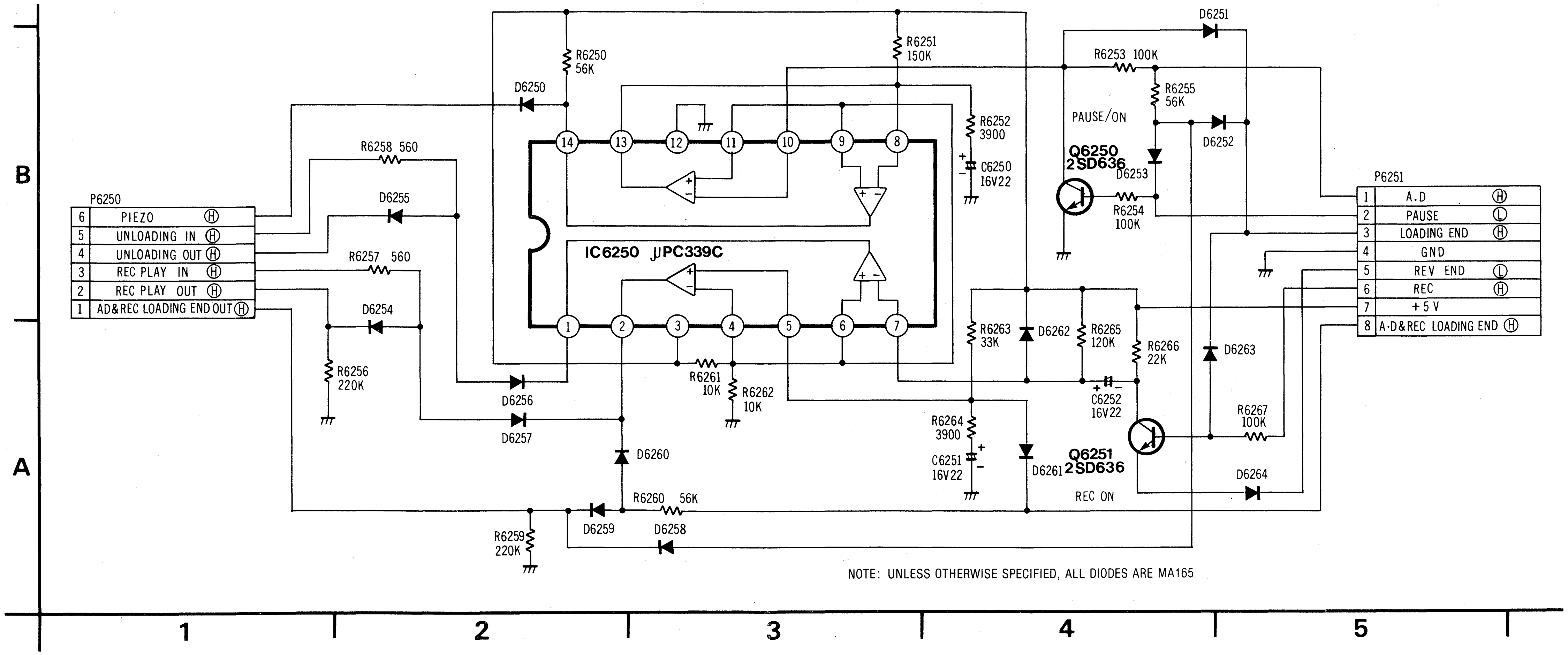
SUB-SYSTEM CONTROL (III) TRANSISTORs VOLTAGE CHART

REF. NO.	Q6250			Q6251		
MODE	E	C	B	E	C	B
STOP	0	0.01	0.61	0.21	4.98	0.03
PLAY	0	0.01	0.61	0.21	5.00	0.03
REC	0	0.01	0.62	4.33	5.00	4.73
F.F	0	0.01	0.62	0.21	5.00	0.03
REW	0.01	0.01	0.62	0.22	5.00	0.03



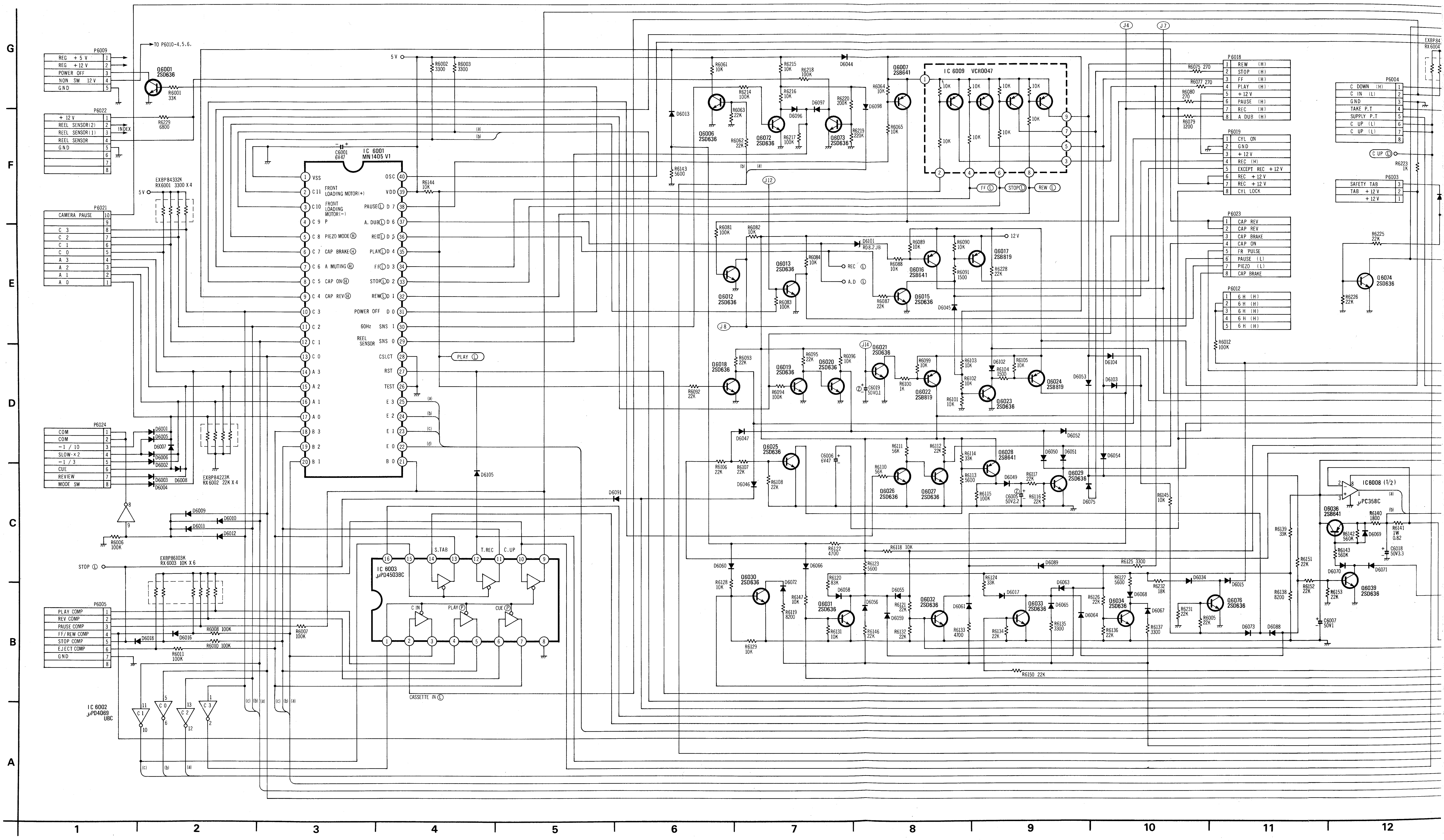
Sub-System Control (3) C.B.A.

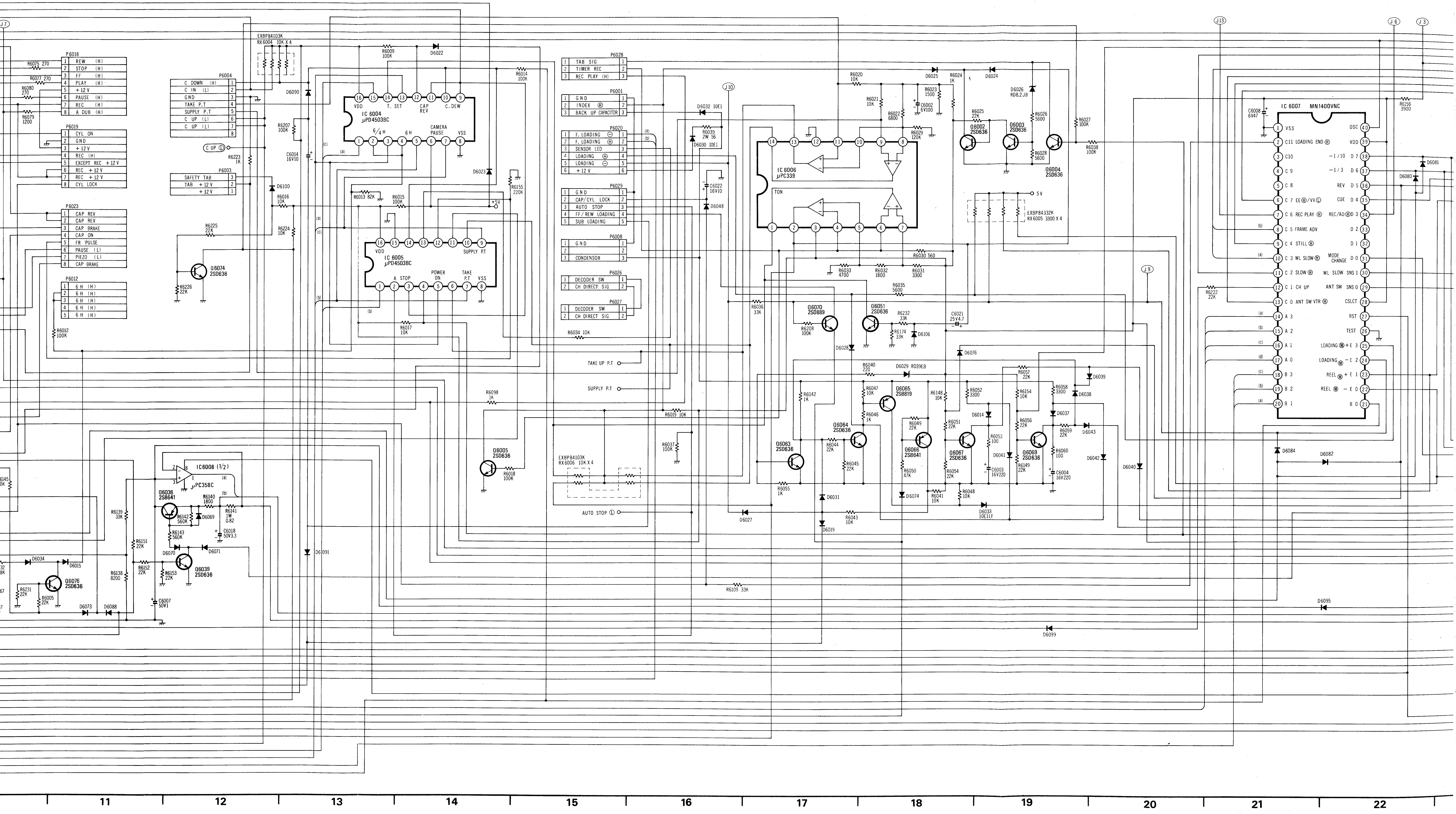
SUB-SYSTEM CONTROL (3) SCHEMATIC DIAGRAM

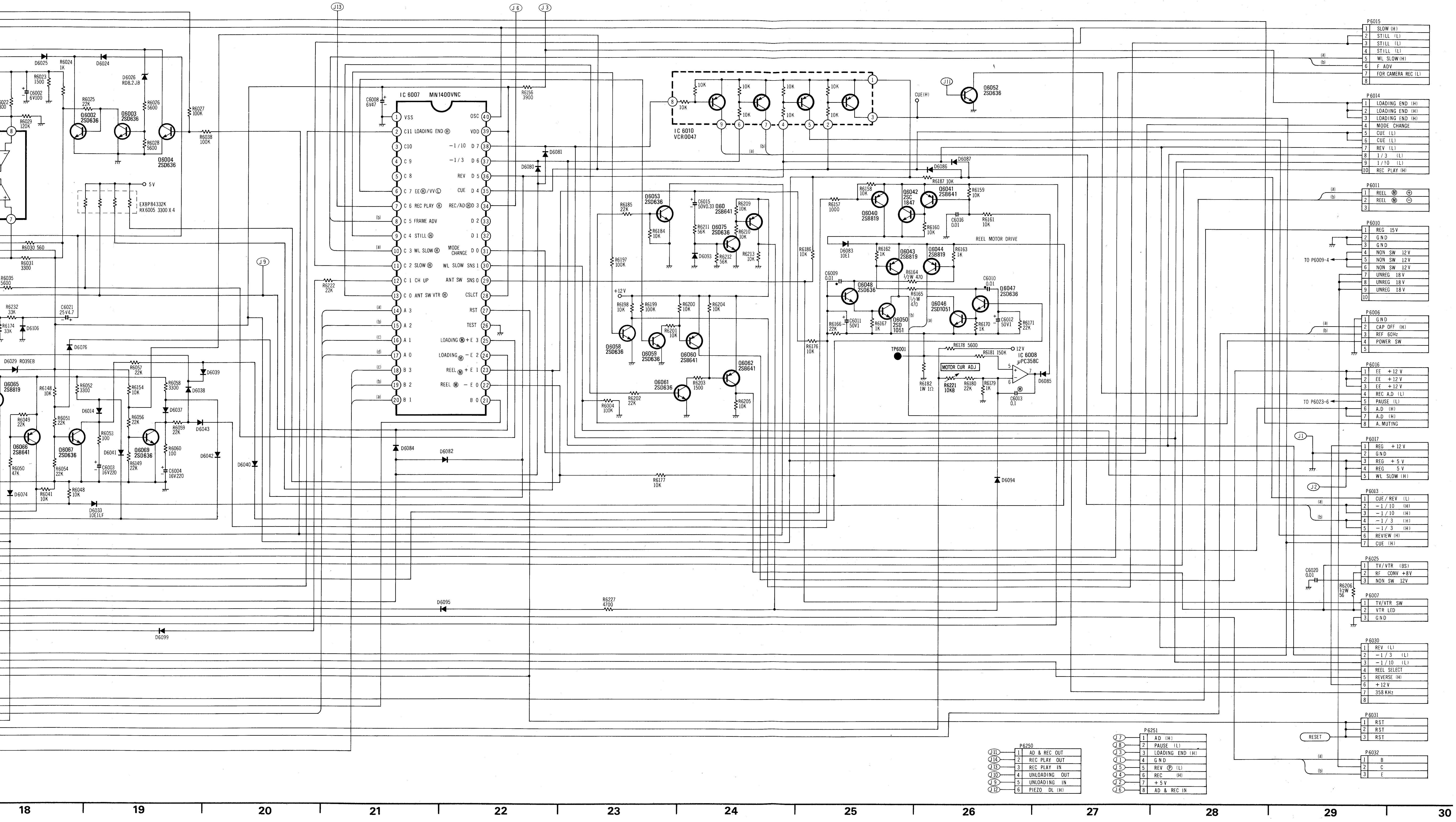

B
A
1
2
3
4
5
P6250
6 PIEZO (H)
5 UNLOADING IN (H)
4 UNLOADING OUT (H)
3 REC PLAY IN (H)
2 REC PLAY OUT (H)
1 AD&REC LOADING END OUT (H)
R6258 560
D6255
R6257 560
D6254
R6256 220K
D6250
R6250 56K
R6251 150K
R6252 3900
C6250 16V22
IC6250 μPC339C
D6256
D6257
D6260
R6261 10K
R6262 10K
R6260 56K
D6259
D6258
R6259 220K
R6263 33K
D6262
R6265 120K
R6266 22K
C6252 16V22
R6264 3900
C6251 16V22
D6261
Q6251 2SD636
REC ON
D6251
R6253 100K
R6255 56K
D6252
PAUSE/ON
Q6250 2SD636
D6253
R6254 100K
D6263
R6267 100K
D6264
P6251
1 A.D (H)
2 PAUSE (L)
3 LOADING END (H)
4 GND
5 REV END (L)
6 REC (H)
7 +5V
8 A-D&REC LOADING END (H)

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

SYSTEM CONTROL SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
P6009
REG +5 V
REG +12 V
POWER OFF
NON SW 12 V
GND
TO P6010-4.5.6.
Q6001
2SD636
R6001
33K
P6022
+12 V
REEL SENSOR(2)
REEL SENSOR(1)
REEL SENSOR
GND
INDEX
R6229
6800
P6021
CAMERA PAUSE
C 3
C 2
C 1
C 0
A 3
A 2
A 1
A 0
EXBP84332K
RX6001 3300 X 4
5V
P6024
COM
COM
-1 / 10
SLOW-×2
-1 / 3
CUE
REVIEW
MODE SW
D6001
D6005
D6007
D6006
D6002
D6003
D6008
D6004
EXBP84223K
RX6002 22K X 4
D6009
D6010
D6011
D6012
R6006
100K
STOP Ⓛ
EXBP86103K
RX6003 10K X 6
P6005
PLAY COMP
REV COMP
PAUSE COMP
FF/REW COMP
STOP COMP
EJECT COMP
GND
D6018
D6016
R6008 100K
R6010 100K
R6011
100K
R6007
100K
IC 6002
μPD4069
UBC
C 1
C 0
C 2
C 3
IC 6001
MN1405 V1
C6001
6V47
VSS
C 11
C 10
C 9
C 8
C 7
C 6
C 5
C 4
C 3
C 2
C 1
C 0
A 3
A 2
A 1
A 0
B 3
B 2
B 1
FRONT LOADING MOTOR(+)
FRONT LOADING MOTOR(-)
P
PIEZO MODE Ⓗ
CAP BRAKE Ⓗ
A MUTING Ⓗ
CAP ON Ⓗ
CAP REV Ⓗ
OSC
VDD
PAUSE Ⓛ D 7
A. DUB Ⓛ D 6
REC Ⓛ D 5
PLAY Ⓛ D 4
FF Ⓛ D 3
STOP Ⓛ D 2
REW Ⓛ D 1
POWER OFF D 0
60Hz SNS 1
REEL SENSOR SNS 0
CSLCT
RST
TEST
E 3
E 2
E 1
E 0
B 0
R6144
10K
5V
R6002
3300
R6003
3300
PLAY Ⓛ
D6105
IC 6003
μPD4503BC
S.TAB
T.REC
C.UP
C IN
PLAY Ⓟ
CUE Ⓟ
CASSETTE IN Ⓛ
D6091
D6013
R6143
5600
R6061
10K
Q6006
2SD636
R6214
100K
R6063
22K
R6062
22K
R6215
10K
R6218
100K
R6216
10K
D6096
D6097
Q6072
2SD636
R6217
100K
R6220
200K
R6219
220K
Q6073
2SD636
D6044
D6098
R6064
10K
Q6007
2SB641
R6065
10K
IC 6009 VCR0047
10K
J4
J7
J12
J8
FF Ⓛ
STOP Ⓛ
REW Ⓛ
P6018
R6075 270
R6077 270
R6080
270
R6079
1200
REW (H)
STOP (H)
FF (H)
PLAY (H)
+12 V
PAUSE (H)
REC (H)
A DUB (H)
P6019
CYL ON
GND
+12 V
REC (H)
EXCEPT REC +12 V
REC +12 V
REC +12 V
CYL LOCK
P6023
CAP REV
CAP REV
CAP BRAKE
CAP ON
FR PULSE
PAUSE (L)
PIEZO (L)
CAP BRAKE
P6012
6 H (H)
R6012
100K
P6004
C DOWN (H)
C IN (L)
GND
TAKE P.T
SUPPLY P.T
C UP (L)
C UP (L)
C UP Ⓛ
R6223
1K
P6003
SAFETY TAB
TAB +12 V
+12 V
EXBP84
RX6004
R6225
22K
Q6074
2SD636
R6226
22K
R6081
100K
R6082
10K
Q6012
2SD636
Q6013
2SD636
R6083
100K
R6084
10K
D6101
RD8.2JB
REC Ⓛ
A.D Ⓛ
R6088
10K
R6089
10K
Q6016
2SB641
R6090
10K
R6091
1500
Q6017
2SB819
12 V
R6228
22K
R6087
22K
Q6015
2SD636
D6045
Q6018
2SD636
R6093
22K
R6092
22K
Q6019
2SD636
R6094
100K
R6095
22K
Q6020
2SD636
R6096
10K
J14
Q6021
2SD636
C6019
50V0.1
R6100
1K
R6099
10K
Q6022
2SB819
R6103
10K
R6102
10K
R6101
10K
D6102
R6104
1500
R6105
10K
Q6023
2SD636
Q6024
2SB819
D6053
D6104
D6103
D6047
R6106
22K
R6107
22K
D6046
Q6025
2SD636
R6108
22K
C6006
6V47
R6111
56K
R6110
56K
Q6026
2SD636
R6112
22K
Q6027
2SD636
R6114
33K
R6113
5600
R6115
100K
Q6028
2SB641
D6049
C6005
50V2.2
R6117
22K
R6116
22K
D6052
D6050
D6051
Q6029
2SD636
D6075
D6054
R6145
10K
IC6008 (1/2)
μPC358C
Q6036
2SB641
R6140
1800
R6141
1W
0.82
R6142
560K
D6069
R6143
560K
C6018
50V3.3
R6139
33K
R6151
22K
R6152
22K
R6153
22K
D6070
D6071
Q6039
2SD636
R6138
8200
C6007
50V1
D6060
R6128
10K
Q6030
2SD636
D6072
R6147
10K
R6119
8200
R6129
10K
R6122
4700
D6066
R6120
83K
D6058
Q6031
2SD636
R6131
10K
R6123
5600
R6118 10K
D6056
R6146
22K
D6055
R6121
22K
D6059
R6132
22K
Q6032
2SD636
R6133
4700
D6061
R6124
33K
D6017
D6089
Q6033
2SD636
R6134
22K
D6065
R6135
3300
D6063
D6064
R6125 3300
R6126
22K
R6127
5600
D6068
Q6034
2SD636
R6136
22K
D6067
R6137
3300
R6232
18K
D6034
D6015
R6231
22K
R6005
22K
Q6076
2SD636
D6073
D6088
R6150 22K


P6018
REW (H)
STOP (H)
FF (H)
PLAY (H)
+12V
PAUSE (H)
REC (H)
A DUB (H)
P6019
CYL ON
GND
+12V
REC (H)
EXCEPT REC +12V
REC +12V
REC +12V
CYL LOCK
P6023
CAP REV
CAP REV
CAP BRAKE
CAP ON
FR PULSE
PAUSE (L)
PIEZO (L)
CAP BRAKE
P6012
6H (H)
P6004
C DOWN (H)
C IN (L)
GND
TAKE P.T
SUPPLY P.T
C UP (L)
C UP (L)
P6003
SAFETY TAB
TAB +12V
+12V
Q6074 2SD636
IC 6004 μPD4503BC
VDD
T. SET
CAP REV
C. DEW
CAMERA PAUSE
VSS
IC 6005 μPD4503BC
SUPPLY P.T
A STOP
POWER ON
TAKE P.T
EXBP84103K RX6004 10K X 4
IC6008 (1/2) μPC358C
Q6036 2SB641
Q6039 2SD636
Q6076 2SD636
Q6005 2SD636
P6028
TAB SIG
TIMER REC
REC PLAY (H)
P6001
GND
INDEX (H)
BACK UP CAPACITOR
P6020
F. LOADING ⊖
F. LOADING ⊕
SENSOR LED
LOADING ⊕
LOADING ⊖
+12V
P6029
GND
CAP/CYL LOCK
AUTO STOP
FF/REW LOADING
SUB LOADING
P6008
GND
CONDENSOR
P6026
DECODER SW
CH DIRECT SIG
P6027
DECODER SW
CH DIRECT SIG
TAKE UP P.T
SUPPLY P.T
AUTO STOP (L)
EXBP84103K RX6006 10K X 4
IC 6006 μPC339
Q6002 2SD636
Q6003 2SD636
Q6004 2SD636
EXBP84332K RX6005 3300 X 4
Q6070 2SD889
Q6051 2SD636
Q6063 2SD636
Q6064 2SD636
Q6065 2SB819
Q6066 2SB641
Q6067 2SD636
Q6069 2SD636
IC 6007 MN1400VNC
VSS
C11 LOADING END (H)
C10
C9
C8
C7 EE(H)/VV(L)
C6 REC PLAY (H)
C5 FRAME ADV
C4 STILL (H)
C3 WL SLOW (H)
C2 SLOW (H)
C1 CH UP
C0 ANT SW VTR (H)
A3
A2
A1
A0
B3
B2
B1
OSC
VDD
-1/10 D7
-1/3 D6
REV D5
CUE D4
REC/AD(H) D3
D2
D1
MODE CHANGE D0
WL SLOW SNS 1
ANT SW SNS 0
CSLCT
RST
TEST
LOADING (M) +E3
LOADING (M) -E2
REEL (M) +E1
REEL (M) -E0
B0
J7
J10
J9
J13
J6
J3
11
12
13
14
15
16
17
18
19
20
21
22


IC 6007 MN1400VNC
1 VSS
2 C11 LOADING END Ⓗ
3 C10
4 C9
5 C8
6 C7 EEⒽ/VVⓁ
7 C6 REC PLAY Ⓗ
8 C5 FRAME ADV
9 C4 STILL Ⓗ
10 C3 WL SLOW Ⓗ
11 C2 SLOW Ⓗ
12 C1 CH UP
13 C0 ANT SW VTR Ⓗ
14 A3
15 A2
16 A1
17 A0
18 B3
19 B2
20 B1
40 OSC
39 VDD
38 D7 −1/10
37 D6 −1/3
36 D5 REV
35 D4 CUE
34 D3 REC/ADⒽ
33 D2
32 D1
31 D0 MODE CHANGE
30 SNS1 WL SLOW
29 SNS0 ANT SW
28 CSLCT
27 RST
26 TEST
25 E3 LOADING Ⓜ +
24 E2 LOADING Ⓜ −
23 E1 REEL Ⓜ +
22 E0 REEL Ⓜ −
21 B0
IC 6010 VCR0047
IC 6008 μPC358C
EXBP84332K RX6005 3300 X 4
5V
+12V
12V
MOTOR CUR ADJ
REEL MOTOR DRIVE
TP6001
CUE(H)
Q6002 2SD636
Q6003 2SD636
Q6004 2SD636
Q6052 2SD636
Q6053 2SD636
Q6060 2SB641
Q6075 2SD636
Q6040 2SB819
Q6042 2SC1847
Q6041 2SB641
Q6043 2SB819
Q6044 2SB819
Q6048 2SD636
Q6050 2SD1051
Q6046 2SD1051
Q6047 2SD636
Q6058 2SD636
Q6059 2SD636
Q6060 2SB641
Q6061 2SD636
Q6062 2SB641
Q6065 2SB819
Q6066 2SB641
Q6067 2SD636
Q6069 2SD636
J13
J6
J3
J9
J11
J1
J2
RESET
TO P6009-4
TO P6023-6
P6015
1 SLOW (H)
2 STILL (L)
3 STILL (L)
4 STILL (L)
5 WL SLOW (H)
6 F ADV
7 FOR CAMERA REC (L)
8
P6014
1 LOADING END (H)
2 LOADING END (H)
3 LOADING END (H)
4 MODE CHANGE
5 CUE (L)
6 CUE (L)
7 REV (L)
8 1/3 (L)
9 1/10 (L)
10 REC PLAY (H)
P6011
1 REEL Ⓜ ⊕
2 REEL Ⓜ ⊖
3
P6010
1 REG 15V
2 GND
3 GND
4 NON SW 12V
5 NON SW 12V
6 NON SW 12V
7 UNREG 18V
8 UNREG 18V
9 UNREG 18V
10
P6006
1 GND
2 CAP OFF (H)
3 REF 60Hz
4 POWER SW
5
P6016
1 EE +12V
2 EE +12V
3 EE +12V
4 REC A.D (L)
5 PAUSE (L)
6 A.D (H)
7 A.D (H)
8 A.MUTING
P6017
1 REG +12V
2 GND
3 REG +5V
4 REG 5V
5 WL SLOW (H)
P6013
1 CUE/REV (L)
2 −1/10 (H)
3 −1/10 (H)
4 −1/3 (H)
5 −1/3 (H)
6 REVIEW (H)
7 CUE (H)
P6025
1 TV/VTR (BS)
2 RF CONV +8V
3 NON SW 12V
P6007
1 TV/VTR SW
2 VTR LED
3 GND
P6030
1 REV (L)
2 −1/3 (L)
3 −1/10 (L)
4 REEL SELECT
5 REVERSE (H)
6 +12V
7 358KHz
8
P6031
1 RST
2 RST
3 RST
P6032
1 B
2 C
3 E
P6250
J11 1 AD & REC OUT
J14 2 REC PLAY OUT
J13 3 REC PLAY IN
J10 4 UNLOADING OUT
J9 5 UNLOADING IN
J12 6 PIEZO DL (H)
P6251
J7 1 AD (H)
J8 2 PAUSE (L)
J3 3 LOADING END (H)
J1 4 GND
J5 5 REV Ⓟ (L)
J4 6 REC (H)
J2 7 +5V
J6 8 AD & REC IN
18
19
20
21
22
23
24
25
26
27
28
29
30

P6001 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	GND	— —
2	Index (H)	P6651-1 Servo C.B.A
3	Back Up	P6501-5 Sub System Control (I) Section

P6004 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Cassette Down (H)	P1514-3 Cassette Connection
2	Cassette In (L)	P1514-1 Cassette Connection
3	GND	P1514-8 Cassette Connection
4	Take Up P. TR	P1514-7 Cassette Connection
5	Supply P. TR	P1514-9 Cassette Connection
6	Cassette Up (L)	P1514-2 Cassette Connection
7	Cassette Up (L)	P6701-7 Remaining Tape Time Display Section
8	Cassette Up (L)	— —

P6005 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Play (P)	Mode Select SW C.B
2	CUE Review (P)	Mode Select SW C.B
3	Pause (P)	Mode Select SW C.B
4	FF/REW (P)	Mode Select SW C.B
5	Stop (P)	Mode Select SW C.B
6	Eject (P)	Mode Select SW C.B
7	End	Mode Select SW C.B
8	—	—

P6006 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	GND	— —
2	Cap Off (H)	P2303-6 Serach & Sub System Control (I) C.B.A
3	REF 60 Hz	P3006-6 Luminance & Chrominance C.B.A
4	Power SW	P1506-4 Power SW C.B.A
5	—	— —

P6007 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	TV/VTR SW	P1506-2 Power SW C.B.A
2	TV/VTR LED	P6403-6 Operation (II) C.B.A
3	GND	P1506-3 Power SW C.B.A

P6009 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REG 5V	P1006-11 Power Supply C.B.A
2	REG 12V	P1006-6 Power Supply C.B.A
3	Power Off	P1007-4 Power Supply C.B.A
4	Non SW 12V	P1007-12 Power Supply C.B.A
5	GND	P1006-1 Power Supply C.B.A

P6010 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REG 15V	P2008-11 Servo C.B.A
2	GND	— —
3	GND	P6503-3 Sub System Control
4	Non SW 12V	P1509-3 Inter Connection
5	Non SW 12V	P2505-8 Pattern Generator C.B.A
6	Non SW 12V	P1506-5 Power SW C.B.A
7	UNREG 18V	P6503-7 Sub System Control
8	UNREG 18V	P2008-10 Servo C.B.A
9	UNREG 18V	P6901-4 Sub System Control (II) Section
10	—	— —

P6012 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	SLP (H)	P6302-8 Operation (I) C.B.A
2	SLP (H)	P3004-3 Luminance & Chrominance C.B.A
3	SLP (H)	P2302-6 Search & Sub System Control (I) C.B.A
4	SLP (H)	P6903-6 Sub System Control (II) Section
5	SLP (H)	— —

P6013 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	CUE Review (L)	P2007-3 Servo C.B.A
2	−1/10 (H)	P6403-1 Operation (II) C.B.A
3	−1/10 (H)	P3502-7 V-Dancing COMP (I) Section
4	−1/3 (H)	P6403-4 Operation (II) C.B.A
5	−1/3 (H)	P3502-6 V-Dancing COMP (I) Section
6	Review (H)	P6403-5 Operation (II) C.B.A
7	CUE (H)	P6403-3 Operation (II) C.B.A
8	CUE (H)	P6903-7 Sub System Control (II) Section

P6014 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Loading End (H)	P2005-9 Servo C.B.A
2	Loading End (H)	P6502-1 Sub System Control
3	Loading End (H)	P6701-10 Remaining Tape Time Display Section
4	Mode Change	P6707-1 Remaining Tape Time Display Section
5	CUE (L)	P2007-4 Servo C.B.A
6	CUE (L)	P3502-8 V-Dancing COMP (I) Section
7	Review (L)	P2005-7 Servo C.B.A
8	−1/3 (L)	P2007-6 Servo C.B.A
9	−1/10 (L)	P2007-8 Servo C.B.A
10	REC Play 12V	P2005-1 Servo C.B.A

P6015 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Slow (H)	P2007-11 Servo C.B.A
2	Still (L)	P3502-4 V-Dancing COMP (I) Section
3	Still (L)	P2007-7 Servo C.B.A
4	Still (L)	P6901-6 Sub System Control (II) Section
5	W.L Slow (H)	P2007-12 Servo C.B.A
6	F. ADV (H)	P2007-9 Servo C.B.A
7	REC (L)	P1552-3 Input Jack C.B.A
8	—	— —

P6016 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	EE/VV	P3004-5 Luminance & Chrominance C.B.A
2	EE/VV	P2302-4 Search & Sub System Control (I) C.B.A
3	EE/VV	P6302-12 Operation (I) C.B.A
4	REC/AD (L)	P4005-9 Audio & V-Dancing COMP (I) C.B.A
5	Pause (L)	P6701-12 Remaining Tape Time Display Section
6	AD (H)	P4005-8 Audio & V-Dancing COMP (I) C.B.A
7	AD (H)	P1550-6 Input Jack C.B.A
8	Audio Mute	P6707-4 Remaining Tape Time Display Section

P6017 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	12V	P6301-2 Operation (I) C.B.A
2	GND	P6301-4 Operation (I) C.B.A
3	5V	P6301-1 Operation (I) C.B.A
4	5V	P2505-4 Pattern Generator C.B.A
5	W.L Slow (H)	P6301-3 Operation (I) C.B.A

P6018 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REW (H)	P6302-7 Operation (I) C.B.A
2	Stop (H)	P6302-6 Operation (I) C.B.A
3	FF (H)	P6302-10 Operation (I) C.B.A
4	Play (H)	P6302-4 Operation (I) C.B.A
5	12V	P4301-2 Output Select C.B.A
6	Pause (H)	P6302-1 Operation (I) C.B.A
7	REC (H)	P6302-3 Operation (I) C.B.A
8	AD (H)	P6302-2 Operation (I) C.B.A

P6019 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	CYL ON	P2005-5 Servo C.B.A
2	GND	P2505-3 Pattern Generator C.B.A
3	12V	P2505-5 Pattern Generator C.B.A
4	REC (H)	P1552-4 Input Jack C.B.A
5	Except REC 12V	P2005-2 Servo C.B.A
6	REC (H)	P2005-3 Servo C.B.A
7	REC (H)	P2505-1 Pattern Generator C.B.A
8	CYL Lock	P2005-4 Servo C.B.A

P6020 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	F. Loading ⊖	P6503-11 Sub System Control
2	F. Loading ⊕	P6503-10 Sub System Control
3	Sens LED Drive	P6503-12 Sub System Control
4	Loading +	P6503-8 Sub System Control
5	Loading −	P6503-9 Sub System Control
6	12V	P1552-5 Input Jack C.B.A

P6021 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	A0	P6301-12 Operation C.B.A
2	A1	P6301-9 Operation C.B.A
3	A2	P6301-11 Operation C.B.A
4	A3	P6301-10 Operation C.B.A
5	C0	P6301-8 Operation C.B.A
6	C1	P6301-6 Operation C.B.A
7	C2	P6301-7 Operation C.B.A
8	C3	P6301-5 Operation C.B.A
9	5V	— —
10	Camera Pause	P1552-6 Input Jack C.B.A

P6022 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	12V	P1509-2 Inter Connection
2	T. Reel Sens (2)	P1509-6 Inter Connection
3	T. Reel Sens (1)	P6701-8 Remaining Tape Time Display Section
4	S Reel Sens	P6701-1 Remaining Tape Time Display Section
5	GND	P1509-4 Inter Connection

P6023 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Cap Review	P2005-12 Servo C.B.A
2	Cap Review	P6901-12 Sub System Control (II) Section
3	Cap Review	P6707-3 Remaining Tape Time Display Section
4	Cap On	P2007-10 Servo C.B.A
5	FR Pulse	P2504-6 Pattern Generator C.B.A
6	Pause (L)	P2007-2 Servo C.B.A
7	PIEZO DL (L)	P2007-1 Servo C.B.A
8	Cap Brake	P2005-11 Servo C.B.A

P6024 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	COM	P1520-7 Speed Select C.B.A
2	COM	P6405-1 Operation (II) C.B.A
3	−1/10	P1520-4 Speed Select C.B.A
4	Slow	P1520-5 Speed Select C.B.A
5	−1/3	P1520-10 Speed Select C.B.A
6	CUE	P1520-6 Speed Select C.B.A
7	Review	P1520-9 Speed Select C.B.A
8	Mode SW	P6405-2 Operation (II) C.B.A

P6025 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	TV/VTR (BS)	P1502-5 Capacitor & Ant Connection C.B.A
2	9V	P1-1 RF Converter
3	Non SW 12V	P1502-4 Capacitor & Ant Connection C.B.A

P6028 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	TAB SIG	P1507-8 Tuner Adaptor
2	Timer REC	P1507-1 Tuner Adaptor
3	REC Play (H)	P1507-7 Tuner Adaptor

P6029 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	GND	— —
2	Cap/CYL Lock	P6503-5 Sub System Control (I) Section
3	Auto Stop	P6503-6 Sub System Control (I) Section
4	FF/REW Loading	P6503-2 Sub System Control (I) Section
5	Sub Loading	P6503-1 Sub System Control (I) Section

P6030 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REV (L)	P6901-9 Sub System Control (II) Section
2	−1/3 (L)	P6901-10 Sub System Control (II) Section
3	−1/10 (L)	P6901-11 Sub System Control (II) Section
4	Reel Select	P6903-2 Sub System Control (II) Section
5	Reverse	P6903-1 Sub System Control (II) Section
6	12V	P6903-8 Sub System Control (II) Section
7	358 kHz	P6701-3 Remaining Tape Time Display Section
8	—	— —

P6031 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Reset	P2302-1 Search & Sub System Control (I) C.B.A
2	Reset	P6701-5 Remaining Tape Time Display Section
3	—	— —

P6032 (System Control C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Power TR B	System Control C.B.A
2	Power TR C	System Control C.B.A
3	Power TR E	System Control C.B.A

SYSTEM CONTROL ICs VOLTAGE CHART

REF. NO.	IC6001																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0.14	0.15	0.04	0.04	0.06	0.04	0.05	0.09	0.43	0.43	0.43	0.80	0.01	0.01	0.01	3.07	4.68	1.70	3.98
PLAY	−0.17	−0.03	−0.02	−0.13	−0.13	−0.11	−0.13	4.26	−0.08	0.25	0.25	0.25	0.61	−0.16	−0.16	2.84	2.88	4.82	3.94	3.55
REC	−0.17	−0.03	−0.02	−0.13	−0.13	−0.10	−0.12	4.26	0.07	0.26	0.26	0.26	0.63	−0.15	−0.15	2.82	2.86	4.52	3.92	3.53
F.F	−0.13	0	0.01	−0.09	−0.09	−0.07	−0.09	−0.09	−0.04	0.30	0.30	0.29	0.66	−0.12	−0.12	2.84	2.88	4.54	4.23	0.54
REW	—	−0.08	−0.05	−0.15	−0.14	−0.11	−0.12	−0.12	−0.07	0.27	0.28	0.28	0.65	−0.13	−0.13	2.82	2.87	4.53	4.23	0.55
REF. NO.	IC6001																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	4.98	0.06	0.06	0.06	0.42	0	4.86	0	5.03	2.04	0.07	4.78	0.09	4.80	4.75	4.22	4.98	4.84	5.01	2.21
PLAY	4.81	0.07	0.13	−0.11	3.01	−0.17	4.69	−0.17	—	1.86	−0.10	4.61	4.63	4.63	−0.04	4.06	4.10	4.67	4.84	2.04
REC	4.81	0.06	0.31	0.08	3.16	−0.16	4.69	−0.17	—	1.89	−0.10	4.61	4.62	4.63	−0.04	−0.09	4.81	4.67	4.84	2.05
F.F	4.84	−0.08	0.16	−0.08	0.28	−0.14	4.70	−0.15	2.58	1.88	−0.09	4.61	4.62	−0.08	4.55	4.07	4.84	4.70	4.87	2.09
REW	4.84	0.41	−0.07	−0.07	0.29	−0.13	4.72	−0.13	2.60	1.90	−0.06	−0.03	4.66	4.66	4.62	4.01	4.79	4.58	4.72	1.97
REF. NO.	IC6002																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0.43	4.73	0	5.02	0.80	4.33	0	3.40	1.38	4.73	0.43	4.73	0.43	5.02						
PLAY	0.25	4.57	−0.17	4.76	0.62	4.17	−0.17	3.22	1.17	4.57	0.25	4.57	0.25	4.85						
REC	0.26	4.56	−0.17	4.84	0.63	4.16	−0.17	3.19	1.20	4.56	0.26	4.56	0.26	4.84						
F.F	0.29	4.58	−0.13	4.88	0.67	4.19	−0.13	3.20	1.26	4.59	0.30	4.59	0.30	4.88						
REW	0.21	4.52	−0.18	4.83	0.63	4.14	−0.17	3.16	1.23	4.56	0.20	4.53	0.25	4.83						
REF. NO.	IC6003																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.73	5.01	3.98	5.02	1.69	5.01	4.68	0	4.98	4.25	1.69	0.03	4.68	0.01	4.73	5.02				
PLAY	4.57	4.84	3.55	−0.17	3.94	4.84	4.81	−0.17	4.81	4.08	3.94	−0.14	4.81	4.14	4.57	4.85				
REC	4.56	4.84	3.53	−0.17	3.93	4.84	4.51	−0.17	4.81	4.08	3.93	−0.14	4.52	−0.15	4.56	4.84				
F.F	4.57	4.86	0.55	4.87	4.23	4.87	4.54	−0.13	4.84	4.11	4.24	−0.11	4.54	−0.12	4.59	4.87				
REW	4.49	4.81	0.50	4.77	4.18	4.83	4.49	−0.18	4.81	4.08	4.20	−0.14	4.51	−0.14	4.57	4.86				
REF. NO.	IC6004																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.73	4.04	3.98	4.04	1.69	4.97	4.68	0	4.98	5.01	4.98	4.97	3.98	0.03	4.73	5.02				
PLAY	4.57	−0.13	3.55	−0.13	3.94	4.80	4.81	−0.17	4.81	4.84	4.81	4.80	3.55	−0.14	4.57	4.85				
REC	4.56	−0.15	3.53	−0.15	3.93	4.80	4.52	−0.17	4.81	4.84	4.81	4.80	3.52	−0.14	4.56	4.84				
F.F	4.59	0.37	0.56	0.37	4.24	4.84	4.55	−0.13	4.85	4.88	4.85	4.84	0.56	−0.11	4.59	4.88				
REW	4.56	0.35	0.46	0.26	4.05	4.70	4.45	−0.20	4.79	4.83	4.80	4.80	0.52	−0.13	4.56	4.85				
REF. NO.	IC6005																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16				
STOP	4.33	4.28	4.99	0.01	3.98	5.02	1.70	0	4.69	5.02	0	0.01	0.69	0.80	0	5.02				
PLAY	4.17	4.12	4.81	−0.16	3.55	4.84	3.94	−0.17	4.81	4.84	−0.17	−0.16	0.50	0.61	−0.17	4.85				
REC	4.16	4.11	4.81	−0.16	3.53	4.84	3.93	−0.17	4.52	4.84	−0.17	−0.16	0.51	0.62	−0.17	4.85				
F.F	4.19	4.14	4.84	−0.13	0.56	4.88	4.24	−0.13	4.55	4.88	−0.13	−0.13	0.55	0.66	−0.13	4.88				
REW	4.17	4.13	4.83	−0.14	0.55	4.87	4.23	−0.14	4.54	4.88	−0.14	−0.13	0.55	0.66	−0.13	4.88				
REF. NO.	IC6006																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14						
STOP	0.03	0.03	5.02	5.00	2.41	5.00	3.34	2.83	2.99	2.83	2.99	0	5.02	5.02						
PLAY	−0.14	−0.14	4.85	4.82	2.24	4.83	3.16	2.66	2.82	2.66	2.82	−0.17	4.84	4.84						
REC	−0.14	−0.14	4.84	4.82	2.24	4.82	3.16	2.66	2.82	2.66	2.82	−0.17	4.84	4.84						
F.F	−0.11	−0.10	4.88	4.86	2.27	4.86	3.19	2.69	2.84	2.69	2.84	−0.15	4.88	4.88						
REW	−0.17	−0.16	4.84	4.82	2.24	4.82	3.17	2.67	2.83	2.68	2.83	−0.15	4.87	4.87						
REF. NO.	IC6007																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	0.15	0.02	0.02	0.03	4.57	0.03	0.03	0.03	0.03	0.03	0.03	0.04	0.42	0.06	0.06	0.06	0.43	0.43	0.43
PLAY	−0.17	3.94	−0.15	−0.15	−0.15	−0.15	−0.15	−0.15	−0.14	−0.14	−0.14	−0.14	3.72	3.00	−0.11	0.13	0.31	0.25	0.25	0.25
REC	−0.17	4.07	−0.15	−0.15	−0.15	4.38	3.14	−0.14	−0.14	−0.14	−0.14	−0.14	−0.14	3.16	0.08	0.30	0.06	0.26	0.26	0.26
F.F	−0.13	0.02	−0.11	−0.11	−0.11	4.43	−0.11	−0.11	−0.11	−0.11	−0.11	−0.10	−0.10	0.28	−0.07	0.17	−0.08	0.29	0.29	0.28
REW	−0.15	0	−0.13	−0.13	−0.13	4.41	−0.12	−0.12	−0.11	−0.11	−0.11	−0.11	−0.10	0.28	−0.07	−0.08	0.42	0.30	0.30	0.30
REF. NO.	IC6007																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0.80	0.18	0.19	0.29	0.19	0	4.86	5.01	5.02	0.02	0.05	0.06	0.05	0.07	4.28	4.73	4.73	4.74	5.01	2.22
PLAY	0.62	0	4.17	0.11	0.01	−0.17	4.69	4.84	4.84	−0.15	−0.12	−0.12	−0.12	−0.11	4.10	4.56	4.63	4.64	4.84	2.04
REC	0.63	0.01	4.16	0.11	0.02	−0.17	4.69	4.84	4.84	−0.15	−0.12	4.80	−0.12	4.30	4.09	4.55	4.63	4.64	4.83	2.06
F.F	0.64	0.02	4.19	0.12	0.02	−0.17	4.66	4.87	4.86	−0.14	−0.12	−0.11	−0.11	−0.10	4.11	4.56	4.56	4.56	4.83	2.02
REW	0.67	4.20	0.05	0.15	0.05	−0.13	4.73	4.86	4.87	−0.13	−0.09	−0.09	−0.09	−0.08	4.14	4.59	4.59	4.59	4.87	2.07
REF. NO.	IC6008										IC6009									
MODE	1	2	3	4	5	6	7	8			1	2	3	4	5	6	7	8	9	
STOP	7.43	6.88	6.86	0	0.01	0.37	0.68	15.52			4.28	4.76	0	4.80	−0.18	0.09	4.18	4.78	−0.18	
PLAY	5.29	4.56	4.54	−0.17	0	0	2.73	15.23			4.10	−0.04	4.01	4.63	−0.21	4.63	−0.17	4.61	−0.19	
REC	5.29	4.57	4.56	−0.17	0	0	2.78	15.32			4.11	−0.04	4.01	4.63	−0.24	4.63	−0.20	4.62	0.23	
F.F	—	—	—	−0.14	0	0.23	0.55	15.36			4.14	4.62	−0.13	−0.04	4.04	4.66	0.02	4.64	0.08	
REW	—	—	—	−0.14	0	0.23	0.54	15.35			4.12	4.60	−0.15	4.64	0.08	4.63	0.02	−0.07	4.02	
REF. NO.	IC6010																			
MODE	1	2	3	4	5	6	7	8	9											
STOP	5.01	4.28	0.01	4.73	0.03	4.73	−0.20	4.73	−0.22											
PLAY	4.84	4.10	−0.17	4.56	0.20	4.63	−0.22	4.64	−0.16											
REC	4.12	−0.03	4.02	4.63	−0.21	4.62	−0.20	4.61	−0.21											
F.F	4.87	4.14	−0.14	4.59	0.01	4.59	−0.20	4.59	−0.21											
REW	4.85	4.11	−0.17	4.55	0.01	4.54	−0.20	4.53	−0.20											

SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

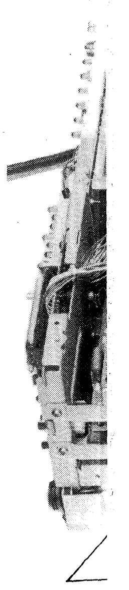
REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006			Q6007		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	13.04	0.06	0	0	0.66	0	0.66	0	0	0	0.60	0	0.03	0.63	0	2.04	0.39	4.27	0	4.56
PLAY	−0.17	12.86	−0.10	−0.17	−0.17	0.49	−0.17	0.49	−0.17	−0.17	−0.16	0.42	−0.17	−0.14	0.46	−0.17	1.87	0.21	4.10	−0.12	4.38
REC	−0.18	12.85	−0.10	−0.17	−0.17	0.49	−0.17	0.49	−0.17	−0.17	0.20	−0.16	−0.17	−0.15	0.46	−0.17	1.89	0.19	4.10	−0.20	4.39
F.F	−0.17	12.87	−0.09	−0.16	−0.15	0.50	−0.16	0.50	−0.16	−0.16	0.13	−0.15	−0.16	−0.14	0.46	−0.17	1.85	0.20	4.08	−0.15	4.35
REW	−0.18	12.85	−0.11	−0.17	−0.17	0.48	−0.16	0.49	−0.17	−0.15	0.05	−0.15	−0.15	−0.12	0.47	−0.15	1.89	0.23	4.12	−0.05	4.40
REF. NO.	Q6012			Q6013			Q6015			Q6016			Q6017			Q6018			Q6019		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	10.96	−0.03	0	9.84	0.04	0	0.06	0.70	0.51	0	2.05	12.00	11.86	11.24	0	0.04	0.63	0	0.69	0.06
PLAY	−0.17	10.76	−0.12	−0.17	10.79	−0.13	−0.17	−0.11	0.52	0.33	−0.17	1.88	11.80	11.66	11.05	−0.17	7.64	−0.04	−0.17	0.51	−0.11
REC	−0.17	10.79	0.01	−0.17	10.55	−0.13	−0.17	11.82	−0.10	11.81	−0.17	11.80	11.84	−0.14	11.83	−0.17	7.61	−0.04	−0.17	0.52	−0.10
F.F	−0.15	10.79	−0.08	−0.15	9.62	−0.11	−0.15	−0.09	0.54	11.82	−0.15	11.80	11.82	11.68	11.07	−0.17	−0.13	0.45	−0.17	0.51	−0.11
REW	−0.18	10.77	−0.05	−0.21	9.56	−0.20	−0.14	−0.08	0.55	11.84	−0.14	11.82	11.84	11.69	11.08	−0.15	−0.11	0.47	−0.16	0.52	−0.10
REF. NO.	Q6020			Q6021			Q6022			Q6023			Q6024			Q6025			Q6026		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0.69	0	0.50	0	0.51	0.01	0.51	0	0.51	0.32	0.51	0.02	0.51	10.06	0	10.08	0	0.66	0.05
PLAY	−0.17	−0.16	0.51	−0.17	0.33	−0.17	0.33	−0.16	0.33	−0.17	0.33	0.15	0.34	−0.15	0.34	−0.17	11.77	−0.17	−0.17	−0.15	0.46
REC	−0.17	−0.17	0.53	−0.17	−0.11	0.54	11.81	11.79	11.09	−0.17	−0.09	0.52	11.81	11.77	11.08	−0.17	11.80	−0.17	−0.17	−0.16	0.46
F.F	−0.18	−0.18	0.49	−0.14	11.83	−0.14	11.84	−0.13	11.83	−0.14	11.82	0.17	11.83	−0.12	11.82	−0.15	11.78	−0.15	−0.16	0.49	−0.12
REW	−0.16	−0.16	0.51	−0.18	11.81	−0.16	11.81	−0.16	11.80	−0.19	11.77	0.18	11.84	−0.11	11.83	−0.14	11.80	−0.14	−0.14	0.51	−0.10
REF. NO.	Q6027			Q6028			Q6029			Q6030			Q6031			Q6032			Q6033		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.01	0.66	12.01	0	11.97	0	4.71	0	0	9.43	0	0	9.43	0	0	9.39	0.46	0	9.44	0
PLAY	−0.17	8.68	−0.15	11.82	−0.16	11.78	−0.17	8.40	−0.17	−0.17	4.07	−0.17	−0.17	4.30	−0.17	−0.17	4.00	0.28	−0.17	4.30	−0.17
REC	−0.17	8.72	−0.16	11.84	−0.17	11.80	−0.17	8.42	−0.17	−0.17	4.07	0.05	−0.17	4.29	0.05	−0.17	4.02	0.28	−0.17	4.29	−0.17
F.F	−0.17	−0.17	0.46	11.84	−0.13	11.81	−0.14	4.58	−0.13	−0.14	9.27	−0.14	−0.14	9.27	−0.14	−0.14	9.23	0.31	−0.15	9.28	−0.15
REW	−0.14	−0.13	0.51	11.83	−0.15	11.79	−0.15	4.56	−0.15	−0.16	9.25	−0.17	−0.17	9.23	−0.18	−0.19	9.18	0.26	−0.13	9.30	−0.13
REF. NO.	Q6034			Q6036			Q6039			Q6040			Q6041			Q6042			Q6043		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	9.46	0	6.87	6.85	6.30	0	0.12	0.68	6.88	6.88	6.19	6.88	6.87	6.19	6.87	6.88	6.87	6.56	0.07	6.55
PLAY	−0.17	−0.14	0.48	4.69	4.54	4.44	−0.17	4.34	−0.17	4.56	3.13	4.54	4.56	3.80	3.92	3.13	4.56	3.80	2.37	0.39	2.37
REC	−0.17	−0.14	0.49	4.70	4.55	4.45	−0.17	4.33	−0.17	4.57	3.15	4.55	4.57	3.84	3.92	3.16	4.57	3.84	2.39	0.48	2.39
F.F	−0.15	9.28	−0.15	—	—	—	−0.14	0	0.54	—	—	—	—	—	—	—	—	—	—	—	—
REW	−0.13	9.30	−0.14	—	—	—	−0.15	−0.02	0.53	—	—	—	—	—	—	—	—	—	—	—	—
REF. NO.	Q6044			Q6046			Q6047			Q6048			Q6050			Q6051			Q6052		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	6.56	0.04	6.56	0	0.20	0	0	6.56	0.13	0	6.56	0.13	0	0.27	0	0	0.03	0	0	12.02	0
PLAY	2.37	2.18	1.66	0	2.18	0	0	2.37	0	0.71	0.74	1.37	0	0.33	0.71	−0.17	−0.14	−0.17	−0.17	11.85	−0.17
REC	2.39	2.20	1.67	0	2.20	0	0	2.39	0	0.71	0.74	1.38	0	0.48	0.71	−0.17	−0.14	−0.17	−0.17	−0.13	0.48
F.F	—	—	—	0	—	0	0	6.82	0.03	0.74	0.82	1.45	0	0.05	0.74	−0.14	−0.11	−0.14	−0.15	11.85	−0.15
REW	—	0.04	—	0	0.05	0.75	0.74	0.83	1.45	0	—	0.03	0	—	0	−0.15	−0.13	−0.16	−0.17	11.85	−0.17
REF. NO.	Q6053			Q6058			Q6059			Q6060			Q6061			Q6062			Q6063		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.01	0.68	0	10.96	0.03	0	0.06	0.64	12.00	11.96	11.25	0	11.99	0.04	12.00	0	11.99	0	0.02	0.76
PLAY	−0.17	−0.16	0.51	−0.17	10.76	−0.14	−0.17	11.77	−0.15	11.80	−0.16	11.79	−0.17	−0.11	0.51	11.80	11.69	11.00	−0.17	−0.16	0.60
REC	−0.17	−0.16	0.51	−0.17	10.78	−0.14	−0.17	−0.11	0.47	11.83	11.80	11.08	−0.17	−0.11	0.51	11.82	11.71	11.02	−0.17	−0.15	0.60
F.F	−0.14	−0.13	0.54	−0.14	10.81	−0.11	−0.14	−0.08	0.50	11.86	11.82	11.11	−0.14	11.84	−0.11	11.85	−0.14	11.84	−0.14	−0.12	0.61
REW	−0.18	−0.18	0.50	−0.25	10.67	−0.10	−0.13	−0.07	0.50	11.86	11.82	11.11	—	—	—	11.85	−0.15	11.83	−0.14	−0.13	0.61
REF. NO.	Q6064			Q6065			Q6066			Q6067			Q6069			Q6070			Q6071		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	10.24	0.01	10.25	0	10.24	10.25	0	10.23	0	0.05	0.67	0	0.04	0.67	9.90	0	0.28	12.00	0	11.99
PLAY	−0.18	9.96	−0.17	9.98	−0.17	9.97	9.99	−0.18	9.97	−0.18	−0.13	0.51	−0.18	−0.13	0.51	9.64	−0.17	0.10	11.80	−0.17	11.79
REC	−0.17	10.05	−0.16	10.06	−0.17	10.05	10.06	−0.17	10.00	−0.17	−0.13	0.49	−0.17	−0.13	0.50	9.71	−0.17	0.10	11.82	−0.17	11.81
F.F	−0.15	9.96	−0.14	9.98	−0.15	9.96	9.97	9.91	9.28	−0.19	−0.15	0.45	−0.13	−0.09	0.53	−0.14	−0.13	0.15	11.86	−0.14	11.85
REW	−0.15	9.96	−0.15	9.95	−0.16	9.94	9.95	9.95	9.32	−0.14	−0.09	0.52	−0.15	−0.11	0.51	−0.18	−0.17	0.10	11.81	−0.18	11.79
REF. NO.	Q6072			Q6073			Q6074			Q6075			Q6076								
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B						
STOP	0	0.41	0.28	0	0.02	0.35	0	4.24	0.54	0	11.98	0	0	6.84	0						
PLAY	−0.18	0.22	0.11	−0.17	—	0.18	−0.17	4.22	0.38	−0.17	11.78	−0.17	−0.18	4.27	−0.18						
REC	−0.17	0.21	0.10	−0.17	—	0.27	−0.17	−0.16	0.47	−0.17	11.80	−0.17	−0.17	4.30	−0.17						
F.F	−0.14	0.25	0.12	−0.15	2.74	0.19	−0.14	−0.12	0.50	−0.14	11.82	−0.13	−0.15	−0.14	0.47						
REW	−0.13	0.26	0.14	−0.13	2.76	0.22	−0.13	−0.12	0.50	−0.14	11.83	−0.13	−0.14	−0.12	0.48						

INDEX CIRCUIT TRANSISTORs VOLTAGE CHART

REF. NO.	Q6801			Q6802			Q6803			Q6804			Q6805		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.02	0	4.96	0	4.97	0	5.03	0	4.96	0	4.16	0	0	4.86	0
PLAY	4.85	−0.17	4.80	−0.17	4.81	−0.17	4.86	−0.18	4.80	−0.18	3.99	−0.18	−0.17	4.70	−0.17
REC	4.84	−0.17	4.80	−0.17	4.80	−0.17	4.85	−0.17	4.79	−0.17	4.00	−0.17	−0.17	4.69	−0.17
F.F	4.86	−0.16	4.80	−0.16	4.80	−0.16	4.84	−0.20	4.72	−0.17	4.00	−0.18	−0.19	4.66	0.01
REW	4.87	−0.14	4.82	−0.14	4.82	−0.14	4.88	−0.14	4.82	−0.14	4.04	−0.14	−0.14	4.71	−0.14

INDEX CIRCUIT ICs VOL

REF. NO.					
MODE	1	2	3	4	5
STOP	0	4.84	3.96	0.03	0.03
PLAY	−0.17	−0.10	3.78	−0.14	−0.14
REC	−0.17	4.66	3.79	−0.14	−0.14
F.F	−0.15	4.68	3.81	−0.13	−0.12
REW	−0.15	4.69	3.82	−0.11	−0.11
REF. NO.					
MODE	21	22	23	24	25
STOP	0.01	0.05	0.06	0.05	0.05
PLAY	−0.16	−0.12	−0.12	−0.12	−0.12
REC	−0.16	−0.12	−0.12	−0.12	−0.12
F.F	−0.13	−0.09	−0.08	−0.09	−0.09
REW	−0.15	−0.11	−0.11	−0.11	−0.12
REF. NO.					
MODE	1	2	3	4	5
STOP	0.27	4.25	0.24	0	0.58
PLAY	0.10	4.08	0.07	0.07	4.76
REC	0.10	4.08	0.07	0.07	4.76
F.F	0.11	4.09	0.08	0.08	4.80
REW	0.12	4.10	0.10	0.10	4.82
REF. NO.					
MODE	1	2	3	4	5
STOP	0.19	0.09	0	0.16	4.80
PLAY	0.02	4.62	−0.01	−0.01	4.63
REC	0.02	4.62	−0.01	−0.01	4.62
F.F	0.03	4.63	0	−0.16	−0.07
REW	0.06	4.65	0.02	0.02	4.66
REF. NO.					
MODE	1	2	3	4	5
STOP	0.05	0.80	0	0	0.80
PLAY	−0.12	0.62	−0.17	−0.17	0.62
REC	−0.12	0.63	−0.17	−0.17	0.63
F.F	−0.10	0.64	−0.16	−0.15	0.64
REW	−0.10	0.65	−0.16	−0.16	0.64



SYSTEM CONTROL TRANSISTORs VOLTAGE CHART

REF. NO.	Q6001			Q6002			Q6003			Q6004			Q6005			Q6006			Q6007		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	13.04	0.06	0	0	0.66	0	0.66	0	0	0	0.60	0	0.03	0.63	0	2.04	0.39	4.27	0	4.56
PLAY	-0.17	12.86	-0.10	-0.17	-0.17	0.49	-0.17	0.49	-0.17	-0.17	-0.16	0.42	-0.17	-0.14	0.46	-0.17	1.87	0.21	4.10	-0.12	4.38
REC	-0.18	12.85	-0.10	-0.17	-0.17	0.49	-0.17	0.49	-0.17	-0.17	0.20	-0.16	-0.17	-0.15	0.46	-0.17	1.89	0.19	4.10	-0.20	4.39
F.F	-0.17	12.87	-0.09	-0.16	-0.15	0.50	-0.16	0.50	-0.16	-0.16	0.13	-0.15	-0.16	-0.14	0.46	-0.17	1.85	0.20	4.08	-0.15	4.35
REW	-0.18	12.85	-0.11	-0.17	-0.17	0.48	-0.16	0.49	-0.17	-0.15	0.05	-0.15	-0.15	-0.12	0.47	-0.15	1.89	0.23	4.12	-0.05	4.40

REF. NO.	Q6012			Q6013			Q6015			Q6016			Q6017			Q6018			Q6019		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	10.96	-0.03	0	9.84	0.04	0	0.06	0.70	0.51	0	2.05	12.00	11.86	11.24	0	0.04	0.63	0	0.69	0.06
PLAY	-0.17	10.76	-0.12	-0.17	10.79	-0.13	-0.17	-0.11	0.52	0.33	-0.17	1.88	11.80	11.66	11.05	-0.17	7.64	-0.04	-0.17	0.51	-0.11
REC	-0.17	10.79	0.01	-0.17	10.55	-0.13	-0.17	11.82	-0.10	11.81	-0.17	11.80	11.84	-0.14	11.83	-0.17	7.61	-0.04	-0.17	0.52	-0.10
F.F	-0.15	10.79	-0.08	-0.15	9.62	-0.11	-0.15	-0.09	0.54	11.82	-0.15	11.80	11.82	11.68	11.07	-0.17	-0.13	0.45	-0.17	0.51	-0.11
REW	-0.18	10.77	-0.05	-0.21	9.56	-0.20	-0.14	-0.08	0.55	11.84	-0.14	11.82	11.84	11.69	11.08	-0.15	-0.11	0.47	-0.16	0.52	-0.10

REF. NO.	Q6020			Q6021			Q6022			Q6023			Q6024			Q6025			Q6026		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0	0.69	0	0.50	0	0.51	0.01	0.51	0	0.51	0.32	0.51	0.02	0.51	10.06	0	10.08	0	0.66	0.05
PLAY	-0.17	-0.16	0.51	-0.17	0.33	-0.17	0.33	-0.16	0.33	-0.17	0.33	0.15	0.34	-0.15	0.34	-0.17	11.77	-0.17	-0.17	-0.15	0.46
REC	-0.17	-0.17	0.53	-0.17	-0.11	0.54	11.81	11.79	11.09	-0.17	-0.09	0.52	11.81	11.77	11.08	-0.17	11.80	-0.17	-0.17	-0.16	0.46
F.F	-0.18	-0.18	0.49	-0.14	11.83	-0.14	11.84	-0.13	11.83	-0.14	11.82	0.17	11.83	-0.12	11.82	-0.15	11.78	-0.15	-0.16	0.49	-0.12
REW	-0.16	-0.16	0.51	-0.18	11.81	-0.16	11.81	-0.16	11.80	-0.19	11.77	0.18	11.84	-0.11	11.83	-0.14	11.80	-0.14	-0.14	0.51	-0.10

REF. NO.	Q6027			Q6028			Q6029			Q6030			Q6031			Q6032			Q6033		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.01	0.66	12.01	0	11.97	0	4.71	0	0	9.43	0	0	9.43	0	0	9.39	0.46	0	9.44	0
PLAY	-0.17	8.68	-0.15	11.82	-0.16	11.78	-0.17	8.40	-0.17	-0.17	4.07	-0.17	-0.17	4.30	-0.17	-0.17	4.00	0.28	-0.17	4.30	-0.17
REC	-0.17	8.72	-0.16	11.84	-0.17	11.80	-0.17	8.42	-0.17	-0.17	4.07	0.05	-0.17	4.29	0.05	-0.17	4.02	0.28	-0.17	4.29	-0.17
F.F	-0.17	-0.17	0.46	11.84	-0.13	11.81	-0.14	4.58	-0.13	-0.14	9.27	-0.14	-0.14	9.27	-0.14	-0.14	9.23	0.31	-0.15	9.28	-0.15
REW	-0.14	-0.13	0.51	11.83	-0.15	11.79	-0.15	4.56	-0.15	-0.16	9.25	-0.17	-0.17	9.23	-0.18	-0.19	9.18	0.26	-0.13	9.30	-0.13

REF. NO.	Q6034			Q6036			Q6039			Q6040			Q6041			Q6042			Q6043		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	9.46	0	6.87	6.85	6.30	0	0.12	0.68	6.88	6.88	6.19	6.88	6.87	6.19	6.87	6.88	6.87	6.56	0.07	6.55
PLAY	-0.17	-0.14	0.48	4.69	4.54	4.44	-0.17	4.34	-0.17	4.56	3.13	4.54	4.56	3.80	3.92	3.13	4.56	3.80	2.37	0.39	2.37
REC	-0.17	-0.14	0.49	4.70	4.55	4.45	-0.17	4.33	-0.17	4.57	3.15	4.55	4.57	3.84	3.92	3.16	4.57	3.84	2.39	0.48	2.39
F.F	-0.15	9.28	-0.15	—	—	—	-0.14	0	0.54	—	—	—	—	—	—	—	—	—	—	—	—
REW	-0.13	9.30	-0.14	—	—	—	-0.15	-0.02	0.53	—	—	—	—	—	—	—	—	—	—	—	—

REF. NO.	Q6044			Q6046			Q6047			Q6048			Q6050			Q6051			Q6052		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	6.56	0.04	6.56	0	0.20	0	0	6.56	0.13	0	6.56	0.13	0	0.27	0	0	0.03	0	0	12.02	0
PLAY	2.37	2.18	1.66	0	2.18	0	0	2.37	0	0.71	0.74	1.37	0	0.33	0.71	-0.17	-0.14	-0.17	-0.17	11.85	-0.17
REC	2.39	2.20	1.67	0	2.20	0	0	2.39	0	0.71	0.74	1.38	0	0.48	0.71	-0.17	-0.14	-0.17	-0.17	-0.13	0.48
F.F	—	—	—	0	—	0	0	6.82	0.03	0.74	0.82	1.45	0	0.05	0.74	-0.14	-0.11	-0.14	-0.15	11.85	-0.15
REW	—	0.04	—	0	0.05	0.75	0.74	0.83	1.45	0	—	0.03	0	—	0	-0.15	-0.13	-0.16	-0.17	11.85	-0.17

REF. NO.	Q6053			Q6058			Q6059			Q6060			Q6061			Q6062			Q6063		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.01	0.68	0	10.96	0.03	0	0.06	0.64	12.00	11.96	11.25	0	11.99	0.04	12.00	0	11.99	0	0.02	0.76
PLAY	-0.17	-0.16	0.51	-0.17	10.76	-0.14	-0.17	11.77	-0.15	11.80	-0.16	11.79	-0.17	-0.11	0.51	11.80	11.69	11.00	-0.17	-0.16	0.60
REC	-0.17	-0.16	0.51	-0.17	10.78	-0.14	-0.17	-0.11	0.47	11.83	11.80	11.08	-0.17	-0.11	0.51	11.82	11.71	11.02	-0.17	-0.15	0.60
F.F	-0.14	-0.13	0.54	-0.14	10.81	-0.11	-0.14	-0.08	0.50	11.86	11.82	11.11	-0.14	11.84	-0.11	11.85	-0.14	11.84	-0.14	-0.12	0.61
REW	-0.18	-0.18	0.50	-0.25	10.67	-0.10	-0.13	-0.07	0.50	11.86	11.82	11.11	—	—	—	11.85	-0.15	11.83	-0.14	-0.13	0.61

REF. NO.	Q6064			Q6065			Q6066			Q6067			Q6069			Q6070			Q6071		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	10.24	0.01	10.25	0	10.24	10.25	0	10.23	0	0.05	0.67	0	0.04	0.67	9.90	0	0.28	12.00	0	11.99
PLAY	-0.18	9.96	-0.17	9.98	-0.17	9.97	9.99	-0.18	9.97	-0.18	-0.13	0.51	-0.18	-0.13	0.51	9.64	-0.17	0.10	11.80	-0.17	11.79
REC	-0.17	10.05	-0.16	10.06	-0.17	10.05	10.06	-0.17	10.00	-0.17	-0.13	0.49	-0.17	-0.13	0.50	9.71	-0.17	0.10	11.82	-0.17	11.81
F.F	-0.15	9.96	-0.14	9.98	-0.15	9.96	9.97	9.91	9.28	-0.19	-0.15	0.45	-0.13	-0.09	0.53	-0.14	-0.13	0.15	11.86	-0.14	11.85
REW	-0.15	9.96	-0.15	9.95	-0.16	9.94	9.95	9.95	9.32	-0.14	-0.09	0.52	-0.15	-0.11	0.51	-0.18	-0.17	0.10	11.81	-0.18	11.79

REF. NO.	Q6072			Q6073			Q6074			Q6075			Q6076		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	0	0.41	0.28	0	0.02	0.35	0	4.24	0.54	0	11.98	0	0	6.84	0
PLAY	-0.18	0.22	0.11	-0.17	—	0.18	-0.17	4.22	0.38	-0.17	11.78	-0.17	-0.18	4.27	-0.18
REC	-0.17	0.21	0.10	-0.17	—	0.27	-0.17	-0.16	0.47	-0.17	11.80	-0.17	-0.17	4.30	-0.17
F.F	-0.14	0.25	0.12	-0.15	2.74	0.19	-0.14	-0.12	0.50	-0.14	11.82	-0.13	-0.15	-0.14	0.47
REW	-0.13	0.26	0.14	-0.13	2.76	0.22	-0.13	-0.12	0.50	-0.14	11.83	-0.13	-0.14	-0.12	0.48

INDEX CIRCUIT TRANSISTORs VOLTAGE CHART

REF. NO.	Q6801			Q6802			Q6803			Q6804			Q6805		
MODE	E	C	B	E	C	B	E	C	B	E	C	B	E	C	B
STOP	5.02	0	4.96	0	4.97	0	5.03	0	4.96	0	4.16	0	0	4.86	0
PLAY	4.85	-0.17	4.80	-0.17	4.81	-0.17	4.86	-0.18	4.80	-0.18	3.99	-0.18	-0.17	4.70	-0.17
REC	4.84	-0.17	4.80	-0.17	4.80	-0.17	4.85	-0.17	4.79	-0.17	4.00	-0.17	-0.17	4.69	-0.17
F.F	4.86	-0.16	4.80	-0.16	4.80	-0.16	4.84	-0.20	4.72	-0.17	4.00	-0.18	-0.19	4.66	0.01
REW	4.87	-0.14	4.82	-0.14	4.82	-0.14	4.88	-0.14	4.82	-0.14	4.04	-0.14	-0.14	4.71	-0.14

INDEX CIRCUIT ICs VOLTAGE CHART

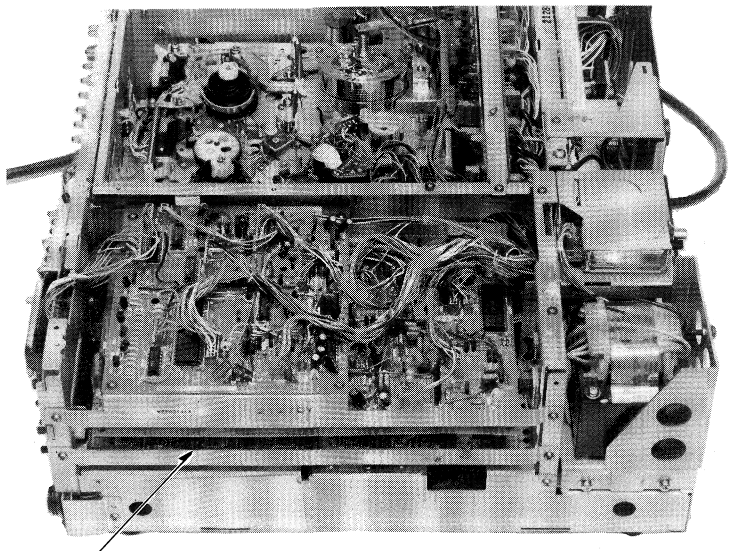
REF. NO.	IC6801																			
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
STOP	0	4.84	3.96	0.03	0.03	0.27	0.19	0.47	1.34	3.98	3.98	3.98	3.98	0.57	0.38	0.16	0.23	0.01	4.32	3.61
PLAY	-0.17	-0.10	3.78	-0.14	-0.14	0.10	0.02	0.29	1.18	3.79	3.80	3.80	3.80	0.34	0.20	0.20	0.20	—	—	3.39
REC	-0.17	4.66	3.79	-0.14	-0.14	0.10	0.02	0.30	1.14	3.80	3.80	3.80	3.80	0.35	-0.01	0.20	0.20	—	—	3.37
F.F	-0.15	4.68	3.81	-0.13	-0.12	0.10	0.03	0.30	1.15	3.81	3.81	3.81	3.79	0.35	0.08	0.23	0.23	1.62	2.06	2.97
REW	-0.15	4.69	3.82	-0.11	-0.11	0.13	0.05	0.32	1.19	3.84	3.84	3.85	3.85	0.43	0.08	0.21	0.21	1.60	2.04	2.82

REF. NO.	IC6801																			
MODE	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
STOP	0.01	0.05	0.06	0.05	0.05	0	4.86	0	4.18	4.32	0.06	4.95	1.05	1.05	1.05	1.06	1.06	1.06	5.03	2.21
PLAY	-0.16	-0.12	-0.12	-0.12	-0.12	-0.17	4.69	-0.17	4.01	—	-0.11	—	—	2.84	—	1.86	0.88	1.88	4.85	2.05
REC	-0.16	-0.12	-0.12	-0.12	-0.12	-0.17	4.85	-0.17	4.02	—	-0.12	—	—	2.84	—	0.88	0.88	1.88	4.85	2.05
F.F	-0.13	-0.09	-0.08	-0.09	-0.09	-0.14	4.72	-0.14	4.03	2.06	-0.09	—	—	—	—	—	—	—	4.87	2.05
REW	-0.15	-0.11	-0.11	-0.11	-0.12	-0.17	4.69	-0.18	3.98	1.99	-0.10	—	—	—	—	—	—	—	4.88	2.06

REF. NO.	IC6802													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.27	4.25	0.24	0	0.58	0.27	0	0.27	3.93	0.24	0.24	4.58	0.27	5.02
PLAY	0.10	4.08	0.07	0.07	4.76	0.10	-0.17	0.10	3.76	0.07	0.07	4.39	0.10	4.85
REC	0.10	4.08	0.07	0.07	4.76	0.10	-0.17	0.10	3.77	0.07	-0.17	0.37	0.10	4.85
F.F	0.11	4.09	0.08	0.08	4.80	0.10	-0.16	0.10	3.76	0.07	0.06	4.41	0.08	4.82
REW	0.12	4.10	0.10	0.10	4.82	0.12	-0.14	0.12	3.79	0.10	0.10	4.45	0.13	4.88

REF. NO.	IC6803													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.19	0.09	0	0.16	4.80	0.20	0	0.19	4.85	0.16	0.16	4.79	0.19	5.02
PLAY	0.02	4.62	-0.01	-0.01	4.63	0.02	-0.17	0.02	4.80	-0.01	-0.01	4.61	0.02	4.84
REC	0.02	4.62	-0.01	-0.01	4.62	0.02	-0.17	0.02	4.79	-0.01	-0.01	4.61	0.02	4.84
F.F	0.03	4.63	0	-0.16	-0.07	0.02	-0.17	-0.01	4.75	4.76	0.02	4.64	0.05	4.87
REW	0.06	4.65	0.02	0.02	4.66	0.06	-0.13	0.05	4.83	0.02	-0.14	-0.05	0.05	4.87

REF. NO.	IC6804													
MODE	1	2	3	4	5	6	7	8	9	10	11	12	13	14
STOP	0.05	0.80	0	0	0.80	0.05	0	0.05	0.43	0	0	0.80	0.06	5.03
PLAY	-0.12	0.62	-0.17	-0.17	0.62	-0.12	-0.17	-0.12	0.25	-0.17	-0.17	0.62	-0.12	4.85
REC	-0.12	0.63	-0.17	-0.17	0.63	-0.12	-0.17	-0.12	0.26	-0.17	-0.17	0.63	-0.12	4.85
F.F	-0.10	0.64	-0.16	-0.15	0.64	-0.10	-0.15	-0.09	0.28	-0.15	-0.15	0.66	-0.09	4.88
REW	-0.10	0.65	-0.16	-0.16	0.64	-0.11	-0.16	-0.11	0.27	-0.16	-0.17	0.64	-0.12	4.85



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P6001

	1	GND
P6651－1	2	INDEX Ⓗ
P6501－5	3	BACK UP

P6003

	1	12V
	2	TAB 12V
	3	S TAB

P6004

P1514－3	1	CASSETTE DOWN Ⓗ
P1514－1	2	CASSETTE IN Ⓛ
P1514－8	3	GND
P1514－7	4	TAKE UP. P. TR
P1514－9	5	SUPPLY P. TR
P1514－2	6	CASSETTE UP Ⓛ
P6701－7	7	CASSETTE UP Ⓛ
	8	Ⓛ

P6005

	1	PLAY Ⓟ
	2	CUE REVIEW Ⓟ
	3	PAUSE Ⓟ
	4	FF/REW Ⓟ
	5	TOP Ⓟ
	6	EJECT Ⓟ
	7	GND
	8	———

P6006

	1	GND
P2303－6	2	CAP OFF Ⓗ
P3006－6	3	REF 60Hz
P1506－4	4	POWER SW
	5	———

P6801

D1	1	P6702－3
D2	2	P6702－2
D3	3	P6702－1
D4	4	P6702－4
D5	5	P6702－6
D6	6	P6702－7
D7	7	P6702－8
———	8	

P6802

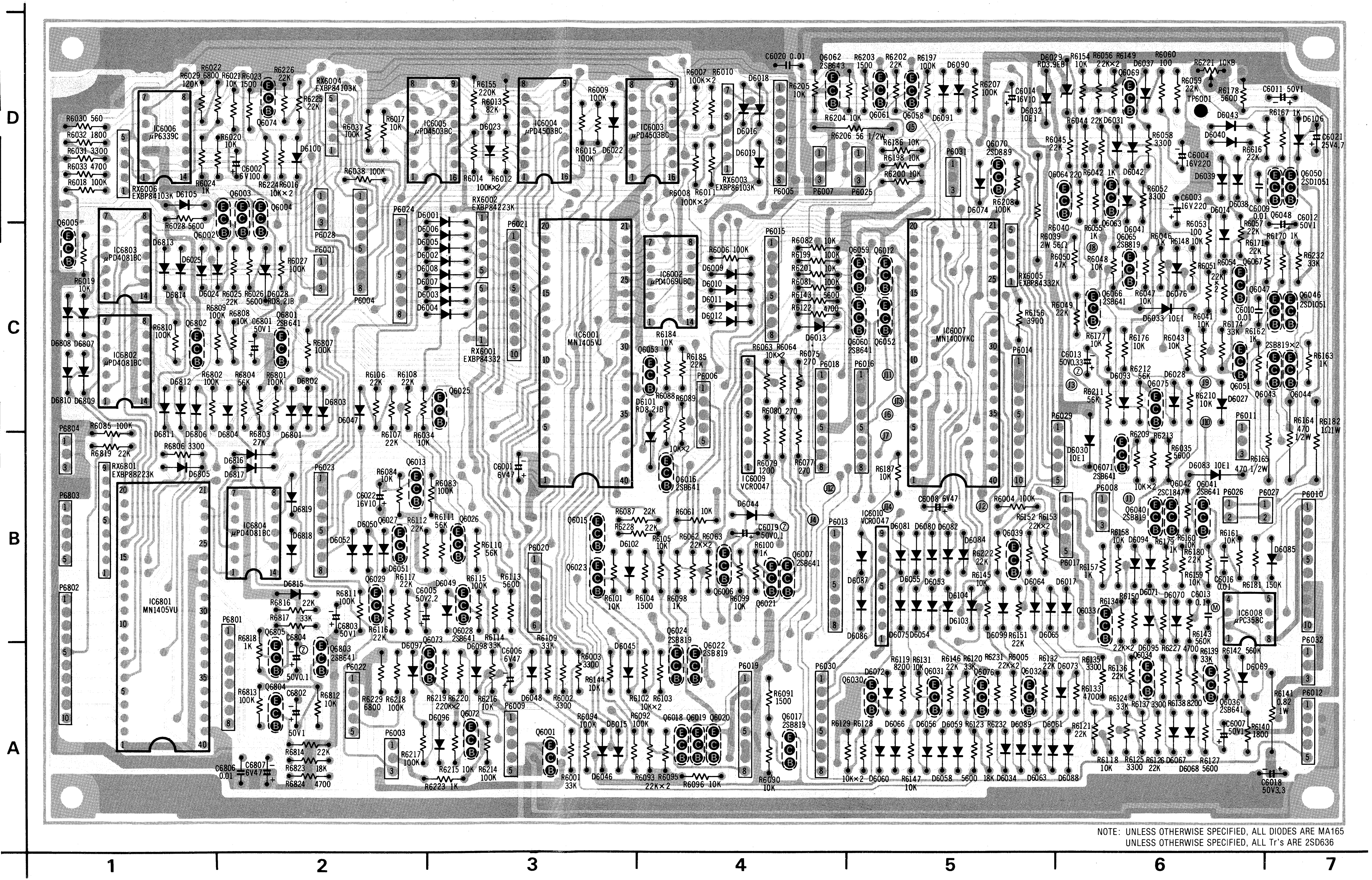
P6702－5	1	C0
P6706－4	2	C1
P6706－5	3	C2
P6706－3	4	C3
P6401－3	5	C4
P6401－8	6	C5
P6401－1	7	C8
P6401－2	8	C9
P6706－2	9	C10
P6706－1	10	C11

P6803

	1	———
P6401－4	2	A0
P6401－7	3	A1
P6401－6	4	A2
P6401－5	5	A3

P6804

P2008－12	1	CTL PULSE
P2505－7	2	INDEX SIG (MR IN)
	3	———


D
C
B
A
1
2
3
4
5
6
7
IC6001 MN1405VJ
IC6002 μPD4069UBC
IC6003 μPD4503BC
IC6004 μPD4503BC
IC6005 μPD4503BC
IC6006 μPD6339C
IC6007 MN1400YKC
IC6008 μPC358C
IC6009 VCR0047
IC6010 VCR0047
IC6801 MN1405VU
IC6802 μPD4081BC
IC6803 μPD4081BC
IC6804 μPD4081BC
RX6001 EXBP84332
RX6002 EXBP84223K
RX6003 EXBP86103K
RX6004 EXBP84103K
RX6005 EXBP84332K
RX6006 EXBP84103K
RX6801 EXBP88223K
P6001
P6003
P6004
P6005
P6006
P6007
P6008
P6009
P6010
P6011
P6012
P6013
P6014
P6015
P6016
P6017
P6018
P6019
P6020
P6021
P6022
P6023
P6024
P6025
P6026
P6027
P6028
P6029
P6030
P6031
P6032
P6801
P6802
P6803
P6804
TP6001
C6018 50V3.3

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P6007

P1506－2	1	TV/VTR SW
P6403－6	2	TV/VTR LED
P1506－3	3	GND

P6008

P1502－1	1	GND
	2	———
P1502－3	3	CONDENSOR

P6009

P1006－11	1	REG 5V
P1006－6	2	REG 12V
P1007－4	3	POWER OFF
P1007－12	4	NON SW 12V
P1006－1	5	GND

P6010

P20C8－11	1	REG 15V
	2	GND
P6503－3	3	GND
P1509－3	4	NON SW 12V
P2505－8	5	NON SW 12V
P1506－5	6	NON SW 12V
P6503－7	7	UNREG 18V
P2008－10	8	UNREG 18V
P6901－4	9	UNREG 18V
	10	———

P6011

P1524－1	1	REEL Ⓜ +
P1524－5	2	REEL Ⓜ −
	3	———

P6012

P6302－8	1	SLP Ⓗ
P3004－3	2	SLP Ⓗ
P2302－6	3	SLP Ⓗ
P6903－6	4	SLP Ⓗ
	5	Ⓗ

P6013

P2007－3	1	CUE REVIEW Ⓛ
P6403－1	2	−1/10 Ⓗ
P3502－7	3	−1/10 Ⓗ
P6403－4	4	−1/3 Ⓗ
P3502－6	5	−1/3 Ⓗ
P6403－5	6	REVIEW Ⓗ
P6403－3	7	CUE Ⓗ
P6903－7	8	CUE Ⓗ

P6014

P2005－9	1	LOADING END Ⓗ
P6502－1	2	LOADING END Ⓗ
P6701－10	3	LOADING END Ⓗ
P6707－1	4	MODE CHANGE
P2007－4	5	CUE Ⓛ
P3502－8	6	CUE Ⓛ
P2005－7	7	REVIEW Ⓛ
P2007－6	8	−1/3 Ⓛ
P2007－8	9	−1/10 Ⓛ
P2005－1	10	REC PLAY 12V

P6015

P2007－11	1	SLOW Ⓗ
P3502－4	2	STILL Ⓛ
P2007－7	3	STILL Ⓛ
P6901－6	4	STILL Ⓛ
P2007－12	5	W. L SLOW Ⓗ
P2007－9	6	F. ADV Ⓗ
P1552－3	7	REC Ⓛ
	8	———

P6016

P3004－5	1	EE/VV
P2302－4	2	EE/VV
P6302－12	3	EE/VV
P4005－9	4	REC/A.D
P6701－12	5	PAUSE
P4005－8	6	AD
P1550－6	7	AD
P6707－4	8	AUDIO MUTING

P6017

P6301－2	1	12V
P6301－4	2	GND
P6301－1	3	5V
P2505－4	4	5V
P6301－3	5	W. L SLOW

P6018

P6302－7	1	REW
P6302－6	2	STOP
P6302－10	3	FF
P6302－4	4	PLAY
P4301－2	5	12V
P6302－1	6	PAUSE
P6302－3	7	REC
P6302－2	8	A.D

P6019

P2005－5	1	CYL ON
P2505－3	2	GND
P2505－5	3	12V
P1552－4	4	REC
P2005－2	5	EXCEPT REC 12V
P2005－3	6	REC
P2505－1	7	REC
P2005－4	8	CYL LOCK

P6020

P6503－11	1	F. LOADING
P6503－10	2	F. LOADING
P6503－12	3	SENS LED DRIVE
P6503－8	4	LOADING +
P6503－9	5	LOADING −
P1552－5	6	12V

P6021

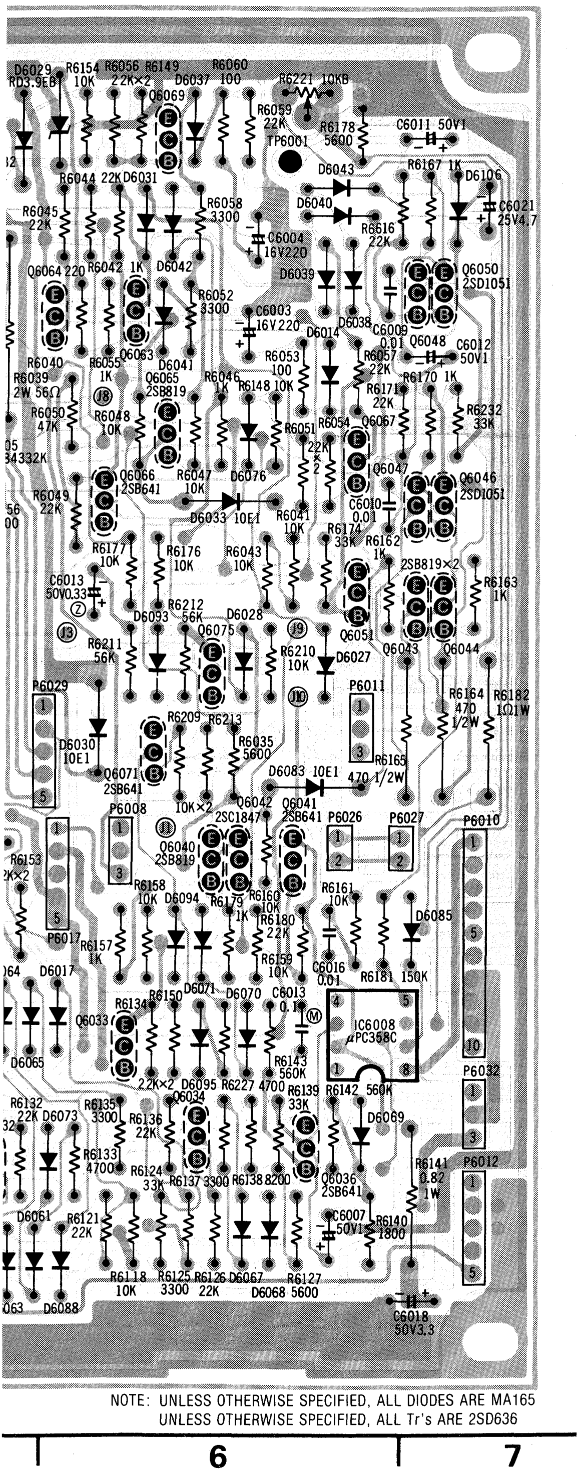
P6301－12	1	A0
P6301－9	2	A1
P6301－11	3	A2
P6301－10	4	A3
P6301－8	5	C0
P6301－6	6	C1
P6301－7	7	C2
P6301－5	8	C3
	9	5V
P1552－6	10	CAMERA PAUSE

P6022

P1509－2	1	12V
P1509－6	2	T. REEL SENS (2
P6701－8	3	T. REEL SENS (1
P6701－1	4	S REEL SENS
P1509－4	5	GND

P6023

P2005－12	1	CAP. REVEW
P6901－12	2	CAP. REVEW
P6707－3	3	CAP. REVEW
P2007－10	4	CAP. ON
P2504－6	5	FR PULSE
P2007－2	6	PAUSE
P2007－1	7	PIEZO DL
P2005－11	8	CAP. BRAKE


D6029
RD3.9EB
R6154 10K
R6056 22K×2
R6149
D6037
R6060 100
R6221 10KB
Q6069
R6059 22K
TP6001
R6178 5600
C6011 50V1
D6043
R6167 1K
D6106
C6021 25V4.7
R6044 22K
D6031
R6045 22K
R6058 3300
D6040
C6004 16V220
R6616 22K
Q6064
R6042 1K
D6042
D6039
Q6050 2SD1051
R6052 3300
C6003 16V220
D6014
D6038
C6009 0.01
Q6048
C6012 50V1
R6040
R6055 1K
Q6063
D6041
R6053 100
R6057 22K
R6039 2W 5.6
Q6065 2SB819
R6046
R6148 10K
R6170 1K
R6171 22K
R6232 33K
R6050 47K
R6048 10K
R6051
R6054 22K
Q6067
Q6066 2SB641
R6047 10K
D6076
Q6047
Q6046 2SD1051
R6049 22K
D6033 10E1
R6041 10K
C6010 0.01
R6174 33K
R6162
R6177 10K
R6176 10K
R6043 10K
2SB819×2
R6163 1K
C6013 50V0.33
R6212 56K
D6093
D6028
Q6075
R6211 56K
R6210 10K
D6027
Q6051
Q6043
Q6044
P6029
P6011
R6164 470 1/2W
R6182 1Ω1W
D6030 10E1
R6209
R6213
R6035 5600
Q6071 2SB641
D6083 10E1
R6165 470 1/2W
P6008
10K×2
2SC1847
Q6042
Q6041 2SB641
P6026
P6027
P6010
R6153
Q6040 2SB819
R6158 10K
D6094
R6179
R6160 10K
R6161 10K
R6180 22K
D6085
P6017
R6157 1K
R6159 10K
C6016 0.01
R6181 150K
D6017
R6134
D6071
D6070
C6013 0.1
IC6008 μPC358C
Q6033
D6065
R6143 560K
P6032
22K×2
D6095
R6227 4700
R6139 33K
R6142 560K
R6132 22K
D6073
R6135 3300
D6034
R6136 22K
D6069
R6133 4700
R6124 33K
R6137 3300
R6138 8200
Q6036 2SB641
R6141 0.82 1W
P6012
D6061
R6121 22K
C6007 50V1
R6140 1800
R6118 10K
R6125 3300
R6126 22K
D6067
D6068
R6127 5600
D6063
D6088
C6018 50V3.3
6
7

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

LOADING END	Ⓗ
LOADING END	Ⓗ
LOADING END	Ⓗ
MODE CHANGE	
CUE	Ⓛ
CUE	Ⓛ
REVIEW	Ⓛ
−1/3	Ⓛ
−1/10	Ⓛ
REC PLAY 12V	

P6015

P2007 − 11	1	SLOW	Ⓗ
P3502 − 4	2	STILL	Ⓛ
P2007 − 7	3	STILL	Ⓛ
P6901 − 6	4	STILL	Ⓛ
P2007 − 12	5	W. L SLOW	Ⓗ
P2007 − 9	6	F. ADV	Ⓗ
P1552 − 3	7	REC	Ⓛ
	8	———	

P6016

P3004 − 5	1	EE/VV	
P2302 − 4	2	EE/VV	
P6302 − 12	3	EE/VV	Ⓛ
P4005 − 9	4	REC/A.D	Ⓛ
P6701 − 12	5	PAUSE	Ⓛ
P4005 − 8	6	AD	Ⓗ
P1550 − 6	7	AD	Ⓗ
P6707 − 4	8	AUDIO MUTING	

P6017

P6301 − 2	1	12V	
P6301 − 4	2	GND	
P6301 − 1	3	5V	
P2505 − 4	4	5V	
P6301 − 3	5	W. L SLOW	Ⓗ

P6018

P6302 − 7	1	REW	Ⓗ
P6302 − 6	2	STOP	Ⓗ
P6302 − 10	3	FF	Ⓗ
P6302 − 4	4	PLAY	Ⓗ
P4301 − 2	5	12V	
P6302 − 1	6	PAUSE	Ⓗ
P6302 − 3	7	REC	Ⓗ
P6302 − 2	8	A.D	Ⓗ

P6019

P2005 − 5	1	CYL ON	
P2505 − 3	2	GND	
P2505 − 5	3	12V	
P1552 − 4	4	REC	Ⓗ
P2005 − 2	5	EXCEPT REC 12V	
P2005 − 3	6	REC	Ⓗ
P2505 − 1	7	REC	Ⓗ
P2005 − 4	8	CYL LOCK	

P6020

P6503 − 11	1	F. LOADING	⊖
P6503 − 10	2	F. LOADING	⊕
P6503 − 12	3	SENS LED DRIVE	
P6503 − 8	4	LOADING +	
P6503 − 9	5	LOADING −	
P1552 − 5	6	12V	

P6021

P6301 − 12	1	A0
P6301 − 9	2	A1
P6301 − 11	3	A2
P6301 − 10	4	A3
P6301 − 8	5	C0
P6301 − 6	6	C1
P6301 − 7	7	C2
P6301 − 5	8	C3
	9	5V
P1552 − 6	10	CAMERA PAUSE

P6022

P1509 − 2	1	12V
P1509 − 6	2	T. REEL SENS (2)
P6701 − 8	3	T. REEL SENS (1)
P6701 − 1	4	S REEL SENS
P1509 − 4	5	GND

P6023

P2005 − 12	1	CAP. REVEW	
P6901 − 12	2	CAP. REVEW	
P6707 − 3	3	CAP. REVEW	
P2007 − 10	4	CAP. ON	
P2504 − 6	5	FR PULSE	
P2007 − 2	6	PAUSE	Ⓛ
P2007 − 1	7	PIEZO DL	Ⓛ
P2005 − 11	8	CAP. BRAKE	

P6024

P1520 − 7	1	COM
P6405 − 1	2	COM
P1520 − 4	3	−1/10
P1520 − 5	4	SLOW
P1520 − 10	5	−1/3
P1520 − 6	6	CUE
P1520 − 9	7	REVIEW
P6405 − 2	8	MODE SW

P6025

P1502 − 1	1	TV/VTR (BS)
P1 − 1	2	9V
P1502 − 3	3	NON SW 12V

P6026

	1	———
P1508 − 2	2	CH DIRECT. S

P6027

	1	———
P6303 − 8	2	CH DIRECT. S

P6028

P1507 − 8	1	TAB SIG	
P1507 − 1	2	TIMER REC	
P1507 − 7	3	REC PLAY	Ⓗ

P6029

	1	GND
P6503 − 5	2	CAP/CYL LOCK
P6503 − 6	3	AUTO STOP
P6503 − 2	4	FF/REW LOADING
P6503 − 1	5	SUB LOADING

P6030

P6901 − 9	1	REV	Ⓛ
P6901 − 10	2	− 1/3	Ⓛ
P6901 − 11	3	− 1/10	Ⓛ
P6903 − 2	4	REEL. SELECT	
P6903 − 1	5	REVERSE	
P6903 − 8	6	12V	
P6701 − 3	7	358KHz	
	8		

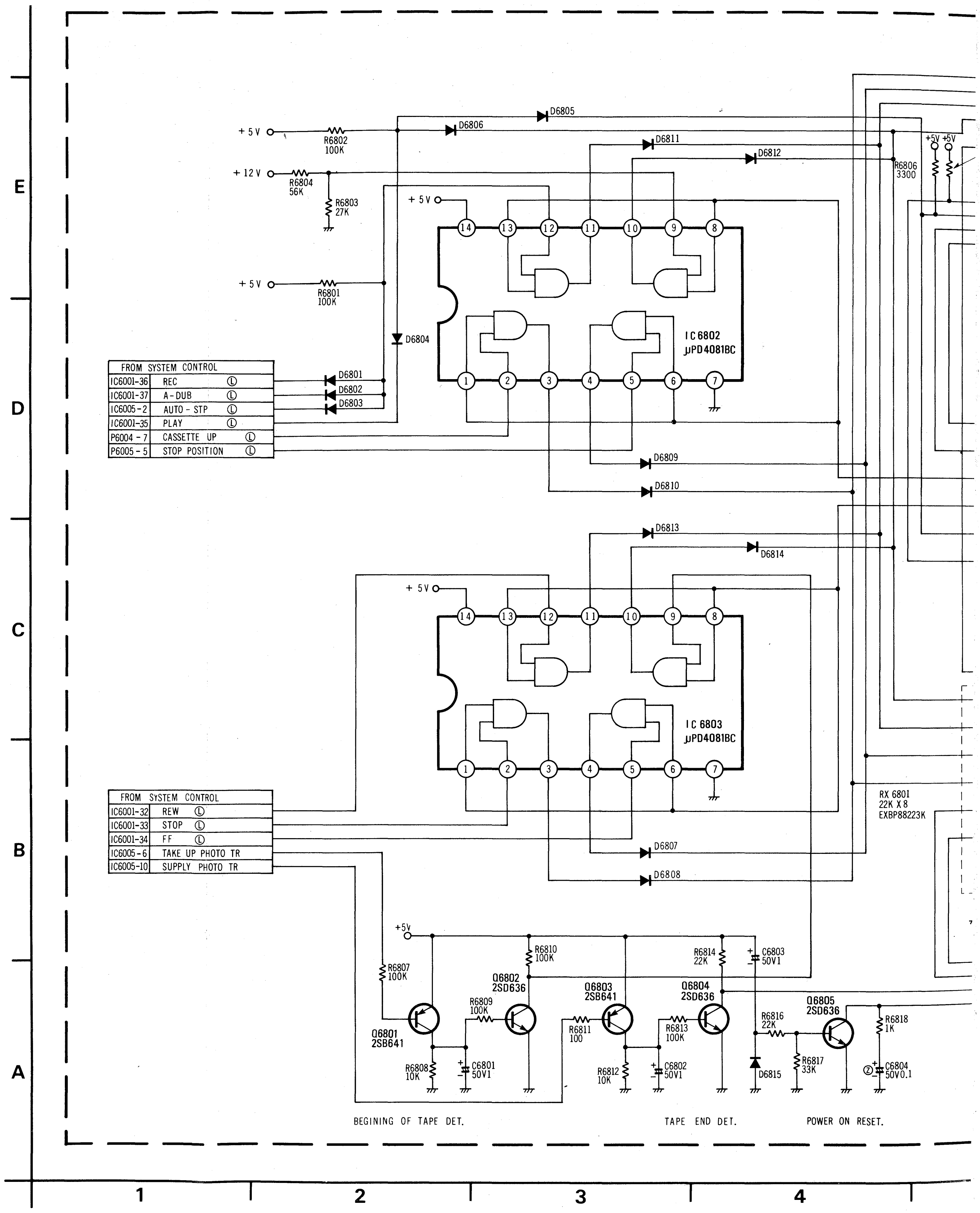
P6031

P2302 − 1	1	RESET
P6701 − 5	2	RESET
	3	———

P6032

	1	POWER TR B
	2	POWER TR C
	3	POWER TR E

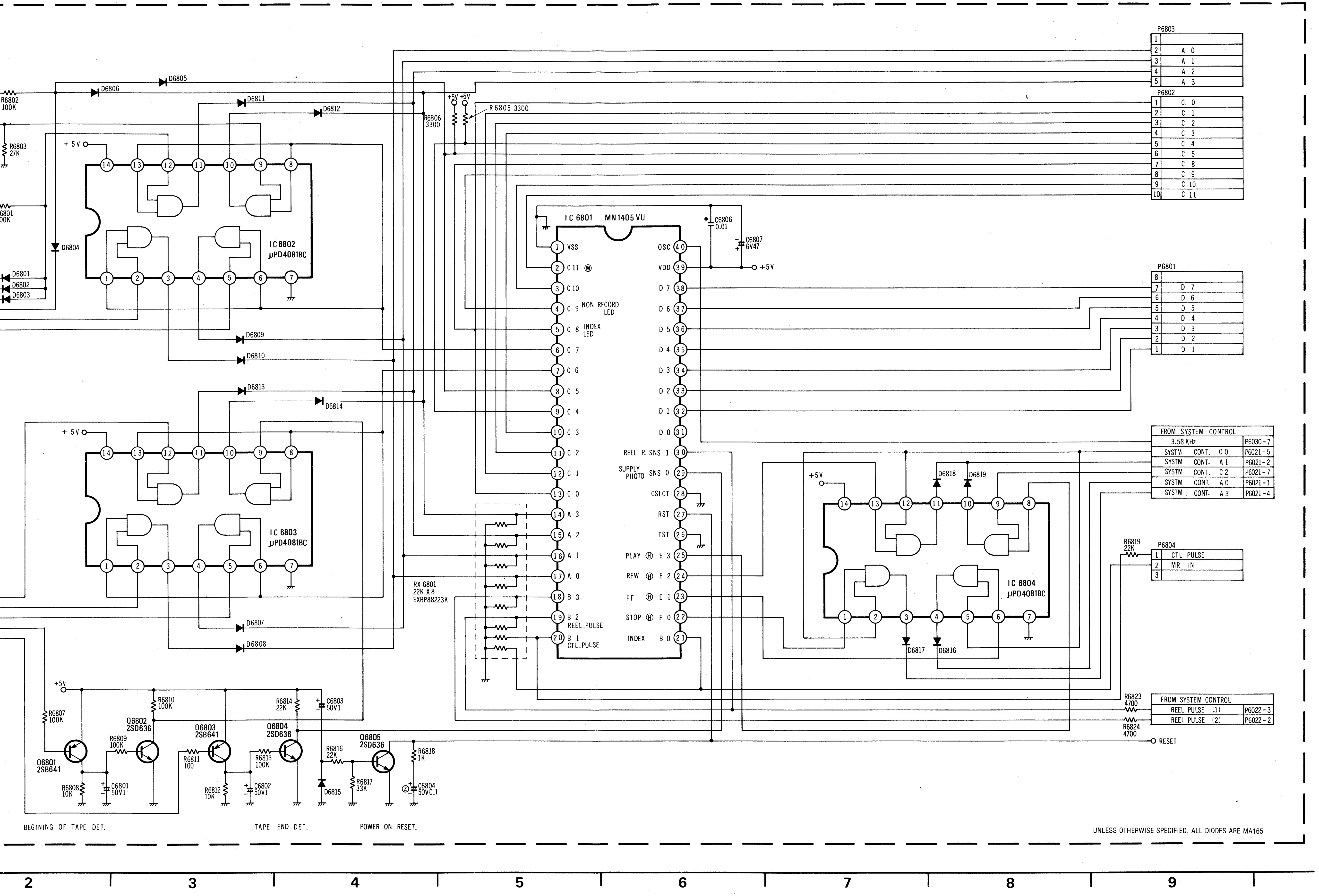
INDEX (2) SCHEMATIC DIAGRAM


E
D
C
B
A
1
2
3
4
+5V
R6802 100K
+12V
R6804 56K
R6803 27K
D6806
D6805
D6811
D6812
R6806 3300
+5V
+5V
R6801 100K
D6804
IC6802
μPD4081BC
D6801
D6802
D6803
D6809
D6810
D6813
D6814
IC6803
μPD4081BC
RX 6801
22K X 8
EXBP88223K
D6807
D6808
+5V
R6807 100K
R6810 100K
R6814 22K
C6803 50V1
Q6802 2SD636
Q6803 2SB641
Q6804 2SD636
Q6805 2SD636
R6809 100K
R6811 100
R6813 100K
R6816 22K
R6818 1K
Q6801 2SB641
R6808 10K
C6801 50V1
R6812 10K
C6802 50V1
D6815
R6817 33K
C6804 50V0.1
BEGINING OF TAPE DET.
TAPE END DET.
POWER ON RESET.

FROM SYSTEM CONTROL		
IC6001-36	REC	Ⓛ
IC6001-37	A-DUB	Ⓛ
IC6005-2	AUTO-STP	Ⓛ
IC6001-35	PLAY	Ⓛ
P6004 - 7	CASSETTE UP	Ⓛ
P6005 - 5	STOP POSITION	Ⓛ

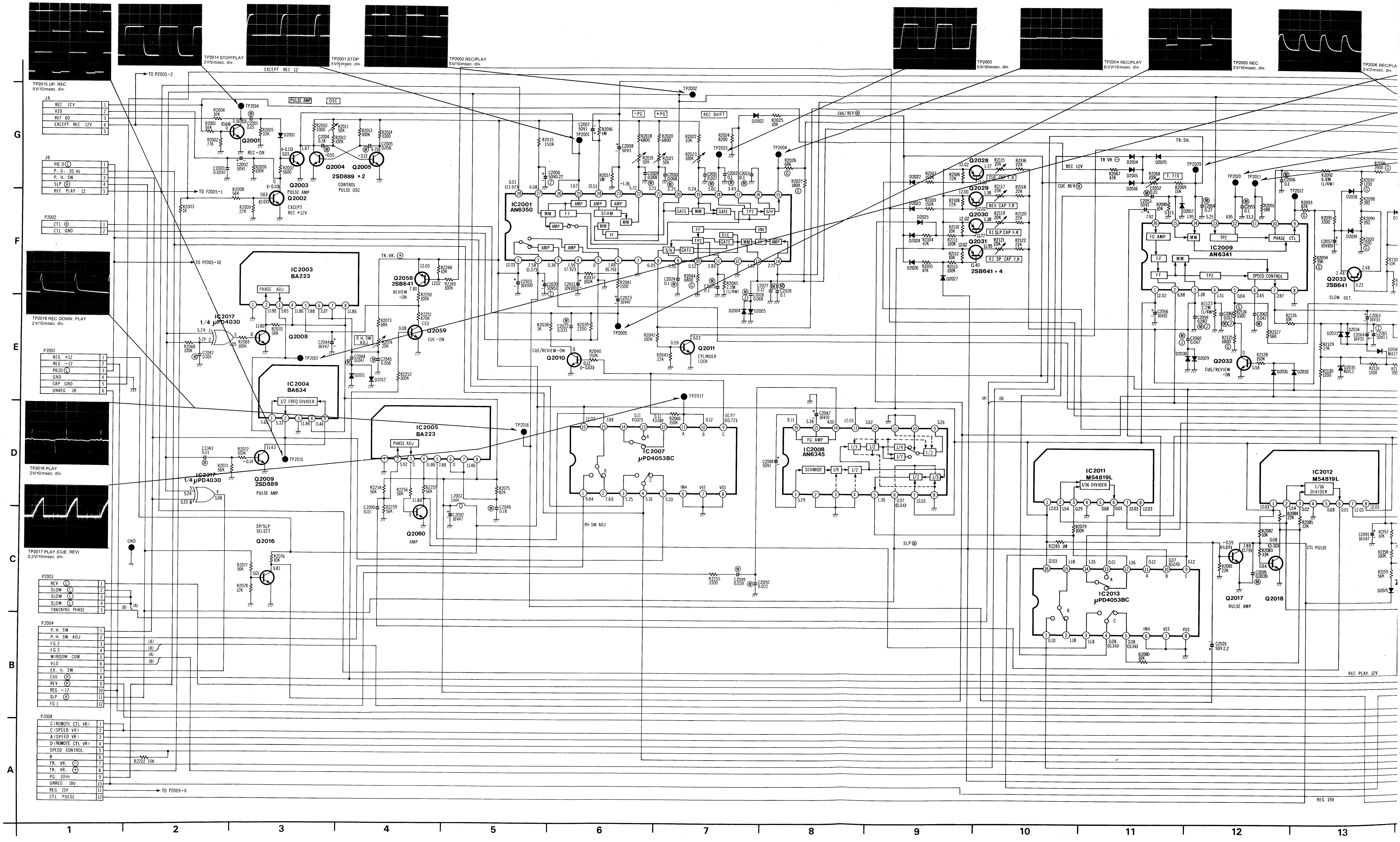
FROM SYSTEM CONTROL		
IC6001-32	REW	Ⓛ
IC6001-33	STOP	Ⓛ
IC6001-34	FF	Ⓛ
IC6005-6	TAKE UP PHOTO TR	
IC6005-10	SUPPLY PHOTO TR	

ATIC DIAGRAM

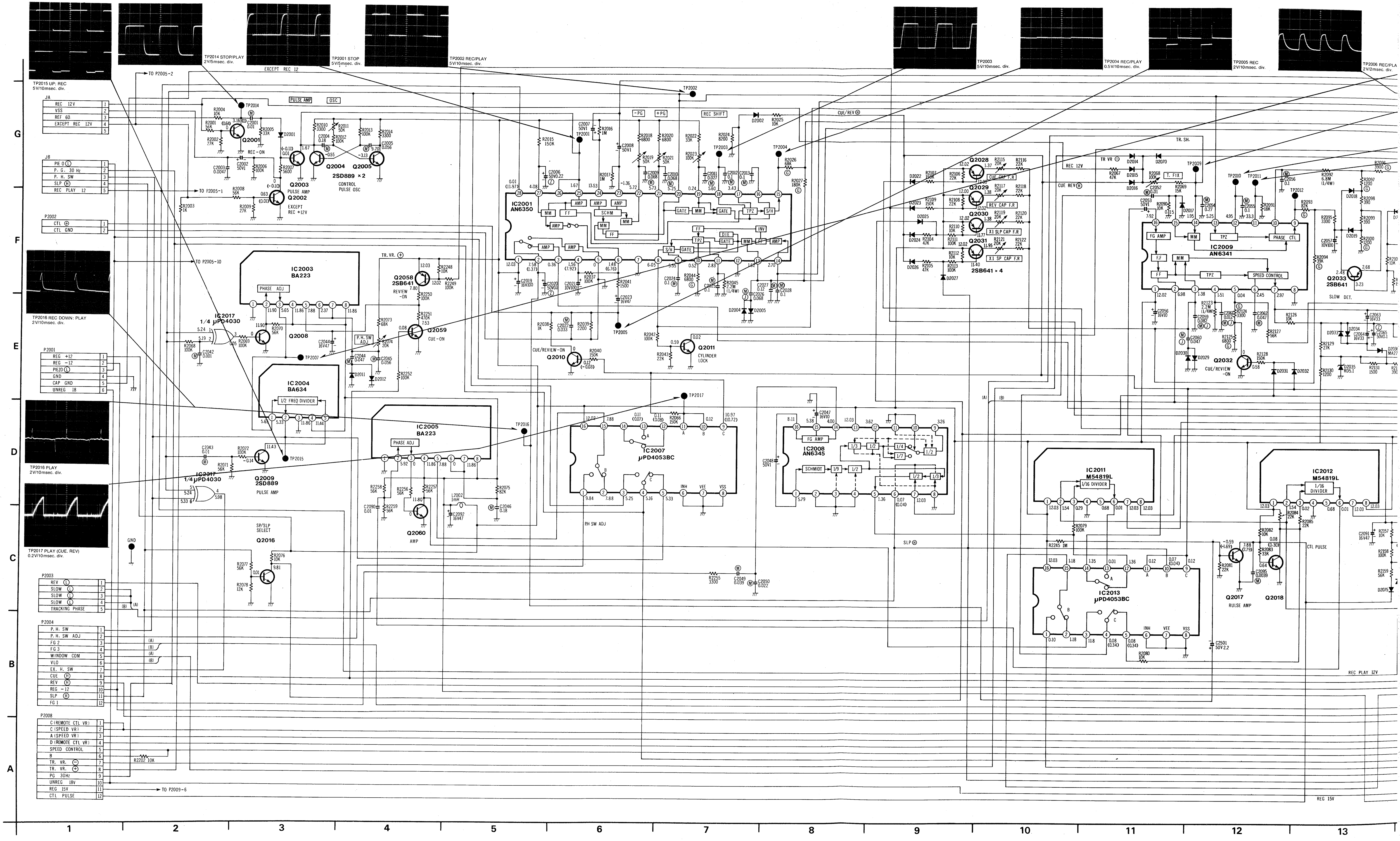

IC 6801 MN1405VU
IC 6802 μPD4081BC
IC 6803 μPD4081BC
IC 6804 μPD4081BC
VSS
C11 Ⓜ
C10
C9 NON RECORD LED
C8 INDEX LED
C7
C6
C5
C4
C3
C2
C1
C0
A3
A2
A1
A0
B3
B2 REEL PULSE
B1 CTL. PULSE
OSC
VDD
D7
D6
D5
D4
D3
D2
D1
D0
REEL P. SNS 1
SUPPLY PHOTO SNS 0
CSLCT
RST
TST
PLAY Ⓗ E3
REW Ⓗ E2
FF Ⓗ E1
STOP Ⓗ E0
INDEX B0
C6806 0.01
C6807 6V47
+5V
R6802 100K
R6803 27K
R6801 100K
D6801
D6802
D6803
D6804
D6805
D6806
D6807
D6808
D6809
D6810
D6811
D6812
D6813
D6814
D6815
D6816
D6817
D6818
D6819
R6806 3300
R6805 3300
RX 6801 22K X 8 EXBP88223K
P6803
A0
A1
A2
A3
P6802
C0
C1
C2
C3
C4
C5
C8
C9
C10
C11
P6801
D7
D6
D5
D4
D3
D2
D1
FROM SYSTEM CONTROL
3.58 KHz P6030-7
SYSTM CONT. C0 P6021-5
SYSTM CONT. A1 P6021-2
SYSTM CONT. C2 P6021-7
SYSTM CONT. A0 P6021-1
SYSTM CONT. A3 P6021-4
R6819 22K
P6804
CTL PULSE
MR IN
R6823 4700
R6824 4700
FROM SYSTEM CONTROL
REEL PULSE (1) P6022-3
REEL PULSE (2) P6022-2
RESET
R6807 100K
Q6801 2SB641
R6808 10K
C6801 50V1
R6809 100K
R6810 100K
Q6802 2SD636
Q6803 2SB641
R6811 100
R6812 10K
C6802 50V1
R6813 100K
R6814 22K
Q6804 2SD636
C6803 50V1
R6816 22K
Q6805 2SD636
R6817 33K
R6818 1K
C6804 50V0.1
BEGINING OF TAPE DET.
TAPE END DET.
POWER ON RESET.
2
3
4
5
6
7
8
9

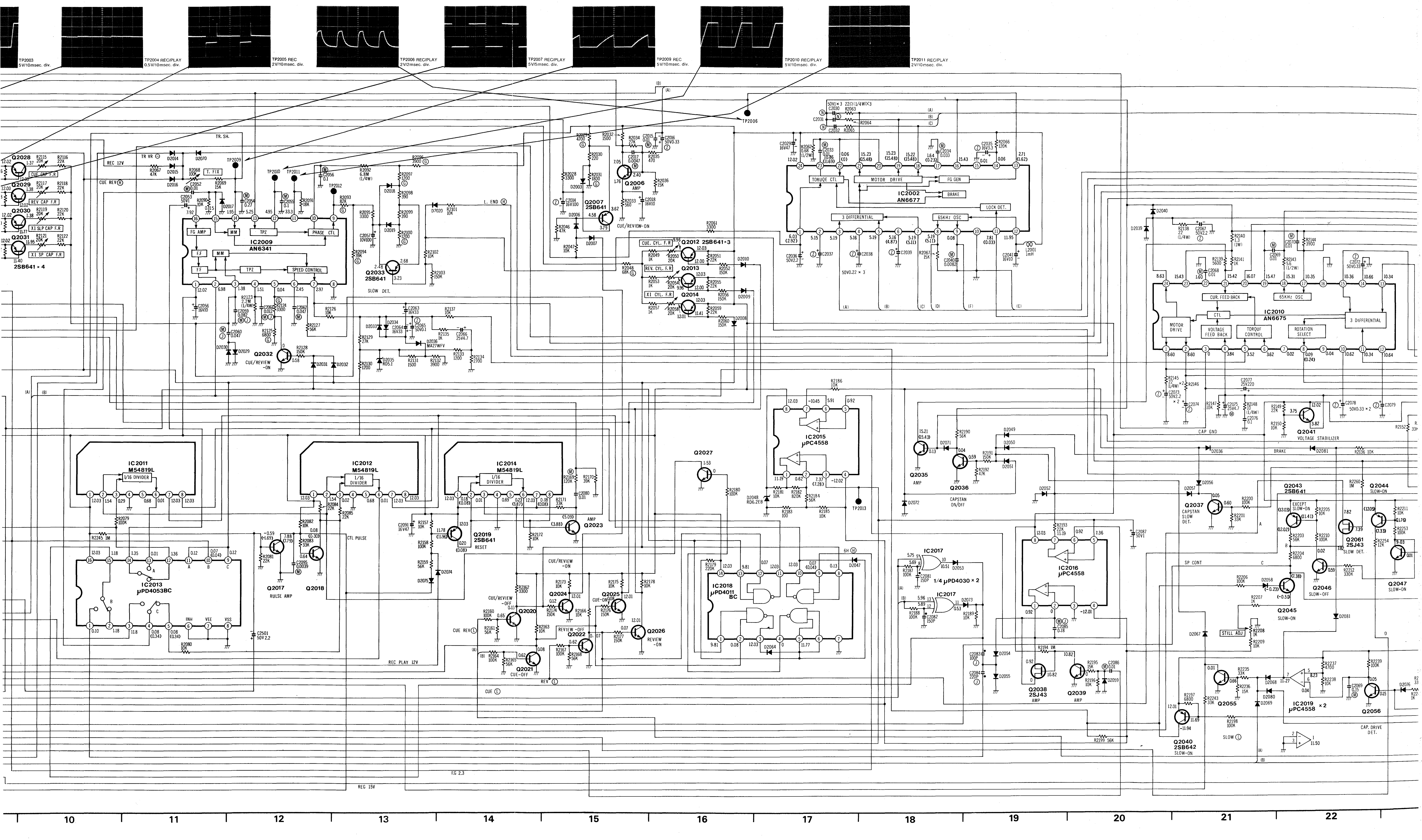
UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

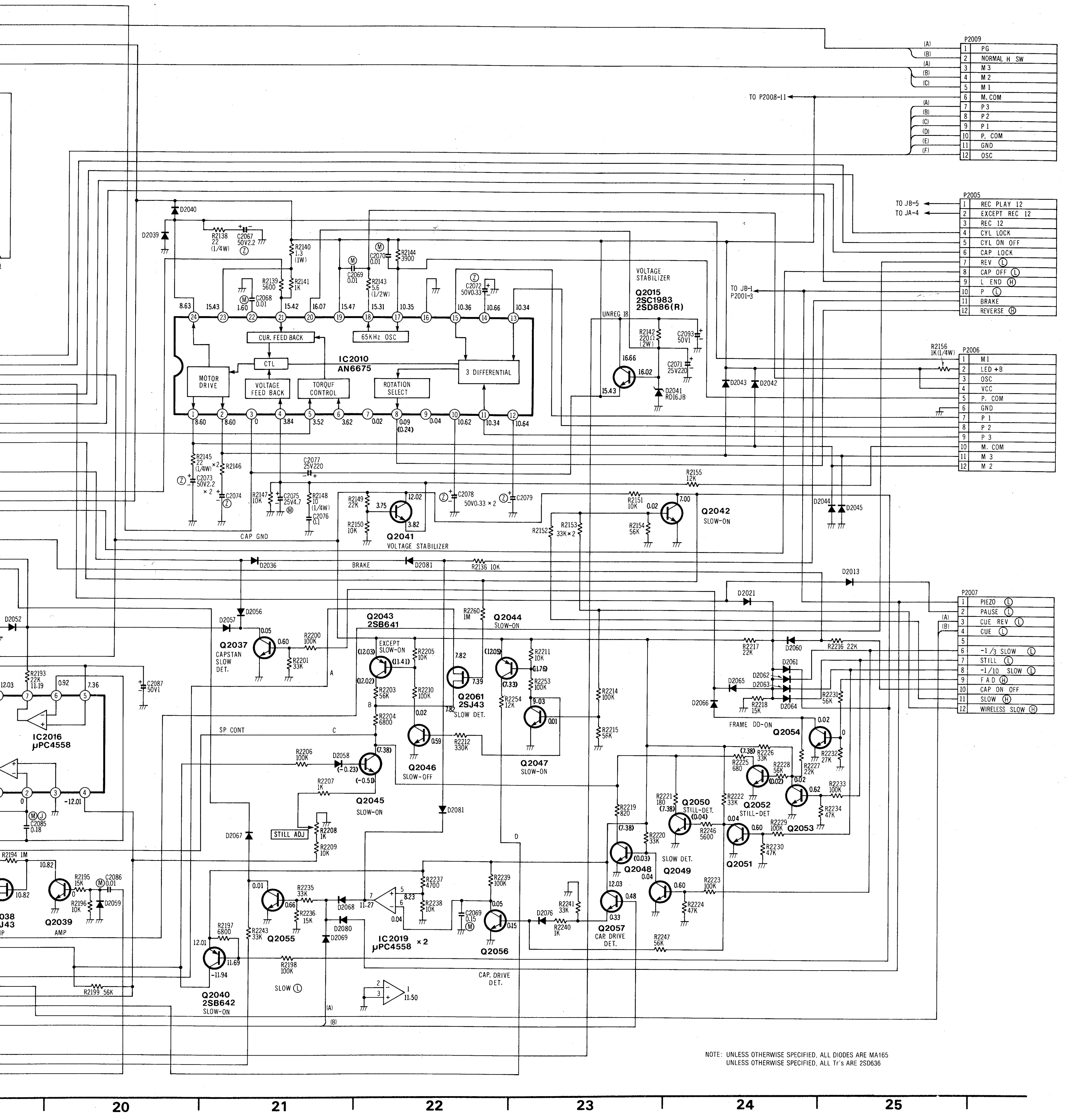
SERVO & INDEX (1) SCHEMATIC DIAGRAM


TP2015 UP: REC 5V/10msec. div.
TP2014 STOP/PLAY 2V/5msec. div.
TP2001 STOP 5V/5msec. div.
TP2002 REC/PLAY 5V/10msec. div.
TP2003 5V/10msec. div.
TP2004 REC/PLAY 0.5V/10msec. div.
TP2005 REC 2V/10msec. div.
TP2006 REC/PLA 2V/2msec. div.
TP2016 REC DOWN: PLAY 2V/10msec. div.
TP2016 PLAY 2V/10msec. div.
TP2017 PLAY (CUE, REV) 0.2V/10msec. div.
JA
REC 12V
VSS
REF 60
EXCEPT REC 12V
JB
PIE O (L)
P. G. 30 Hz
P. H. SW
SLP (H)
REC PLAY 12
P2002
CTL ⊕
CTL GND
P2001
REG +12
REG -12
PIEZO (L)
GND
CAP GND
UNREG 18
P2003
REV (L)
SLOW (L)
SLOW (L)
SLOW (L)
TRACKING PHASE
P2004
P. H. SW
P. H. SW ADJ
FG 2
FG 3
WINDOW COM
VLO
EX. H. SW
CUE (H)
REV (H)
REG -12
SLP (H)
FG 1
P2008
C (REMOTE CTL VR)
C (SPEED VR)
A (SPEED VR)
D (REMOTE CTL VR)
SPEED CONTROL
B
TR. VR. ⊖
TR. VR. ⊕
PG 30Hz
UNREG 18V
REG 15V
CTL PULSE
TO P2005-2
TO P2005-1
TO P2005-10
TO P2009-6
GND
PULSE AMP
OSC
Q2001
REC-ON
Q2003
PULSE AMP
Q2002
EXCEPT REC +12V
Q2004
Q2005
2SD889 ×2
CONTROL PULSE OSC
IC2003
BA223
PHASE ADJ
IC2017
1/4 μPD4030
Q2008
IC2004
BA634
1/2 FREQ DIVIDER
Q2009
2SD889
PULSE AMP
Q2058
2SB641
REVIEW -ON
Q2059
CUE-ON
P. H. SW ADJ
TR. VR. ⊕
TP2007
IC2005
BA223
PHASE ADJ
Q2060
AMP
SP/SLP SELECT
Q2016
EXCEPT REC 12
TP2001
TP2002
TP2005
-PG
+PG
REC SHIFT
CUE/REV (H)
IC2001
AN6350
AMP
MM
FF
SCHM
GATE
TPZ
S/H
INV
DIF
Q2010
CUE/REVIEW-ON
Q2011
CYLINDER LOCK
TP2017
IC2007
μPD4053BC
INH
VEE
VSS
RH SW ADJ
IC2008
AN6345
FG AMP
SCHMIDT
1/3
1/2
1/4
1/7
1/9
SLP (H)
Q2028
Q2029
Q2030
Q2031
2SB641 × 4
CUE CAP F.R
REV CAP F.R
X1 SLP CAP F.R
X1 SP CAP F.R
REC 12V
CUE REV (H)
TR VR ⊖
T. FIX
TR. SH.
TP2009
TP2010
TP2011
TP2012
IC2009
AN6341
FG AMP
PHASE CTL
SPEED CONTROL
Q2032
CUE/REVIEW -ON
Q2033
2SB641
SLOW DET.
IC2011
M54819L
1/16 DIVIDER
IC2013
μPD4053BC
IC2012
M54819L
1/16 DIVIDER
Q2017
RULSE AMP
Q2018
CTL PULSE
REC PLAY 12V
REG 15V
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
13

SERVO & INDEX (1) SCHEMATIC DIAGRAM


TP2015 UP: REC 5V/10msec. div.
TP2014 STOP/PLAY 2V/5msec. div.
TP2001 STOP 5V/5msec. div.
TP2002 REC/PLAY 5V/10msec. div.
TP2003 5V/10msec. div.
TP2004 REC/PLAY 0.5V/10msec. div.
TP2005 REC 2V/10msec. div.
TP2006 REC/PLA 2V/2msec. div.
TP2016 REC DOWN: PLAY 2V/10msec. div.
TP2016 PLAY 2V/10msec. div.
TP2017 PLAY (CUE, REV) 0.2V/10msec. div.
JA
REC 12V
VSS
REF 60
EXCEPT REC 12V
JB
PIE 0 (L)
P. G. 30 Hz
P. H. SW
SLP (H)
REC PLAY 12
P2002
CTL ⊕
CTL GND
P2001
REG +12
REG -12
PIEZO (L)
GND
CAP GND
UNREG 18
P2003
REV (L)
SLOW (L)
TRACKING PHASE
P2004
P. H. SW
P. H. SW ADJ
FG 2
FG 3
WINDOW COM
VLO
EX. H. SW
CUE (H)
REV (H)
REG -12
SLP (H)
FG 1
P2008
C (REMOTE CTL VR)
C (SPEED VR)
A (SPEED VR)
D (REMOTE CTL VR)
SPEED CONTROL
B
TR. VR. ⊖
TR. VR. ⊕
PG 30Hz
UNREG 18V
REG 15V
CTL PULSE
TO P2005-2
TO P2005-1
TO P2005-10
TO P2009-6
EXCEPT REC 12
PULSE AMP
OSC
Q2001
Q2002
Q2003 PULSE AMP
Q2004
Q2005
2SD889 × 2
CONTROL PULSE OSC
EXCEPT REC +12V
REC-ON
IC2001 AN6350
IC2003 BA223
PHASE ADJ
IC2017 1/4 μPD4030
IC2004 BA634
1/2 FREQ DIVIDER
IC2005 BA223
Q2008
Q2009 2SD889 PULSE AMP
Q2016 SP/SLP SELECT
Q2058 2SB641 REVIEW-ON
Q2059 CUE-ON
Q2060 AMP
P. H. SW ADJ
TR. VR. ⊕
Q2010 CUE/REVIEW-ON
Q2011 CYLINDER LOCK
IC2007 μPD4053BC
RH SW ADJ
IC2008 AN6345
FG AMP
SCHMIDT
REC SHIFT
CUE/REV (H)
Q2028
Q2029
Q2030
Q2031
2SB641 × 4
CUE CAP F.R
REV CAP F.R
X1 SLP CAP F.R
X1 SP CAP F.R
IC2009 AN6341
PHASE CTL
SPEED CONTROL
T. FIX
TR. SH.
REC 12V
CUE REV (H)
TR VR ⊖
Q2032 CUE/REVIEW-ON
Q2033 2SB641
SLOW DET.
IC2011 M54819L
1/16 DIVIDER
IC2013 μPD4053BC
IC2012 M54819L
Q2017 PULSE AMP
Q2018
CTL PULSE
SLP (H)
REC PLAY 12V
REG 15V
GND
A
B
C
D
E
F
G
1
2
3
4
5
6
7
8
9
10
11
12
13


TP2003 5V/10msec. div.
TP2004 REC/PLAY 0.5V/10msec. div.
TP2005 REC 2V/10msec. div.
TP2006 REC/PLAY 2V/2msec. div.
TP2007 REC/PLAY 5V/5msec. div.
TP2009 REC 5V/10msec. div.
TP2010 REC/PLAY 5V/10msec. div.
TP2011 REC/PLAY 2V/10msec. div.
Q2028
Q2029
Q2030
Q2031
2SB641 × 4
CUE CAP F.R
REV CAP F.R
X1 SLP CAP F.R
X1 SP CAP F.R
REC 12V
CUE REV
TR VR
TR. SH.
T. FIX
TP2009
TP2010
TP2011
TP2012
IC2009
AN6341
FG AMP
MM
TPZ
PHASE CTL
F.F
FF
SPEED CONTROL
Q2032
CUE/REVIEW -ON
Q2033
2SB641
SLOW DET.
L. END
MA27WFV
Q2007
2SB641
Q2006
AMP
CUE/REVIEW-ON
TP2006
CUE. CYL. F.R
REV. CYL. F.R
X1 CYL. F.R
Q2012 2SB641×3
Q2013
Q2014
50V1×3 22Ω(1/4W)×3
IC2002
AN6677
TORQUE CTL
MOTOR DRIVE
FG GEN
BRAKE
LOCK DET.
3 DIFFERENTIAL
65KHz OSC
50V0.22 × 3
L2001 1mH
IC2010
AN6675
CUR. FEED BACK
CTL
MOTOR DRIVE
VOLTAGE FEED BACK
TORQUE CONTROL
ROTATION SELECT
65KHz OSC
3 DIFFERENTIAL
Q2041
VOLTAGE STABILIZER
CAP GND
BRAKE
IC2011
M54819L
1/16 DIVIDER
IC2012
M54819L
1/16 DIVIDER
IC2014
M54819L
1/16 DIVIDER
IC2013
μPD4053BC
INH VEE VSS
Q2017
PULSE AMP
Q2018
CTL PULSE
Q2019
2SB641
RESET
Q2023
AMP
CUE/REVIEW -ON
CUE/REVIEW -OFF
Q2020
Q2021
CUE-OFF
Q2024
Q2025
CUE-ON
Q2022
REVIEW -OFF
Q2026
REVIEW -ON
CUE REV
REV
CUE
REC PLAY 12V
Q2027
IC2018
μPD4011BC
IC2015
μPC4558
TP2013
6H
IC2017
1/4 μPD4030 × 2
Q2035
AMP
Q2036
CAPSTAN ON/OFF
IC2016
μPC4558
Q2038
2SJ43
AMP
Q2039
AMP
Q2037
CAPSTAN SLOW DET.
Q2043
2SB641
EXCEPT SLOW-ON
Q2044
SLOW-ON
Q2061
2SJ43
SLOW DET.
Q2046
SLOW-OFF
Q2045
SLOW-ON
Q2047
SLOW-ON
SP CONT
STILL ADJ
Q2040
2SB642
SLOW-ON
Q2055
SLOW
IC2019
μPC4558 × 2
Q2056
CAP. DRIVE DET.
F.G 2.3
REG 15V
10
11
12
13
14
15
16
17
18
19
20
21
22


P2009
PG
NORMAL H SW
M 3
M 2
M 1
M. COM
P 3
P 2
P 1
P. COM
GND
OSC
TO P2008-11
P2005
REC PLAY 12
EXCEPT REC 12
REC 12
CYL LOCK
CYL ON OFF
CAP LOCK
REV Ⓛ
CAP OFF Ⓛ
L END Ⓗ
P Ⓛ
BRAKE
REVERSE Ⓗ
TO J8-5
TO JA-4
TO J8-1
P2001-3
P2006
I.ED +B
VCC
IC2010
AN6675
MOTOR DRIVE
CUR. FEED BACK
CTL
65KHz OSC
VOLTAGE FEED BACK
TORQUE CONTROL
ROTATION SELECT
3 DIFFERENTIAL
VOLTAGE STABILIZER
Q2015
2SC1983
2SD886(R)
UNREG 18
Q2041
VOLTAGE STABILIZER
Q2042
SLOW-ON
CAP GND
BRAKE
P2007
PIEZO Ⓛ
PAUSE Ⓛ
CUE REV Ⓛ
CUE Ⓛ
-1/3 SLOW Ⓛ
STILL Ⓛ
-1/10 SLOW Ⓛ
F A D Ⓗ
CAP ON OFF
SLOW Ⓗ
WIRELESS SLOW Ⓗ
Q2037
CAPSTAN SLOW DET.
Q2043
2SB641
EXCEPT SLOW-ON
Q2044
SLOW-ON
Q2061
2SJ43
SLOW DET.
Q2047
SLOW-ON
Q2046
SLOW-OFF
Q2045
SLOW-ON
SP CONT
STILL ADJ.
IC2016
μPC4558
Q2039
AMP
Q2055
IC2019
μPC4558 ×2
Q2056
CAP. DRIVE DET.
Q2040
2SB642
SLOW-ON
SLOW Ⓛ
FRAME DD-ON
Q2054
Q2050
STILL-DET.
Q2052
STILL-DET
Q2053
Q2051
Q2048
Q2049
SLOW DET.
Q2057
CAP DRIVE DET.
20
21
22
23
24
25

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P2001 (Servo C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REG 12V	P1006-7 Power Supply C.B.A
2	REG −12V	P1007-5 Power Supply C.B.A
3	—	— —
4	GND	P1006-2 Power Supply C.B.A
5	GND	P1011-2 Power Supply C.B.A
6	UNREG 18V	P1007-8 Power Supply C.B.A

P2003 (Servo C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Review (L)	P3502-9 V-Dancing COMP (I) Section
2	Slow (L)	P2503-5 Pattern Generator C.B.A
3	Slow (L)	P6402-3 Operation (II) C.B.A
4	Slow (L)	P3502-3 V-Dancing COMP (I) Section
5	Tracking Shift	P3502-11 V-Dancing COMP (I) Section

P2004 (Servo C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	P.H SW	P2504-5 Pattern Generator C.B.A
2	P.H SW ADJ	P2504-1 Pattern Generator C.B.A
3	FG2 (90)	P2504-3 Pattern Generator C.B.A
4	FG3	P2503-4 Pattern Generator C.B.A
5	Window COM	P2504-11 Pattern Generator C.B.A
6	VLO	P2503-1 Pattern Generator C.B.A
7	EX Head SW	P3501-9 Audio & V-Dancing COMP (I) C.B.A
8	CUE (H)	P2504-8 Pattern Generator C.B.A
9	Review (H)	P2504-9 Pattern Generator C.B.A
10	REG −12V	P2504-2 Pattern Generator C.B.A
11	SLP (H)	P2504-4 Pattern Generator C.B.A
12	FG1 (REF)	P2504-12 Pattern Generator C.B.A

P2005 (Servo C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	REC Play 12V	P6014-10 System Control C.B.A
2	Except REC 12V	P6019-5 System Control C.B.A
3	REC 12V	P6019-6 System Control C.B.A
4	CYL Lock	P6019-8 System Control C.B.A
5	CYL On/Off	P6019-1 System Control C.B.A
6	—	— —
7	Review (L)	P6014-7 System Control C.B.A
8	Cap Off (L)	P2303-3 Search & Sub System Control (I) C.B.A
9	Loading End (H)	P6014-1 System Control C.B.A
10	Piezo DL (L)	P3502-10 Audio & V-Dancing COMP (I) C.B.A
11	Cap Brake	P6023-8 System Control C.B.A
12	Reverse	P6023-1 System Control C.B.A

P2007 (Servo C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Piezo DL (L)	P6023-7 System Control C.B.A
2	Pause (L)	P6023-6 System Control C.B.A
3	CUE, Review (L)	P6013-1 System Control C.B.A
4	CUE (L)	P6014-5 System Control C.B.A
5	—	— —
6	−1/3	P6014-8 System Control C.B.A
7	Still (L)	P6015-3 System Control C.B.A
8	−1/10	P6014-9 System Control C.B.A
9	F. ADV (H)	P6015-6 System Control C.B.A
10	Cap On/Off	P6023-4 System Control C.B.A
11	Slow (H)	P6015-1 System Control C.B.A
12	W.L. Slow	P6015-5 System Control C.B.A

P2008 (Servo C.B.A)

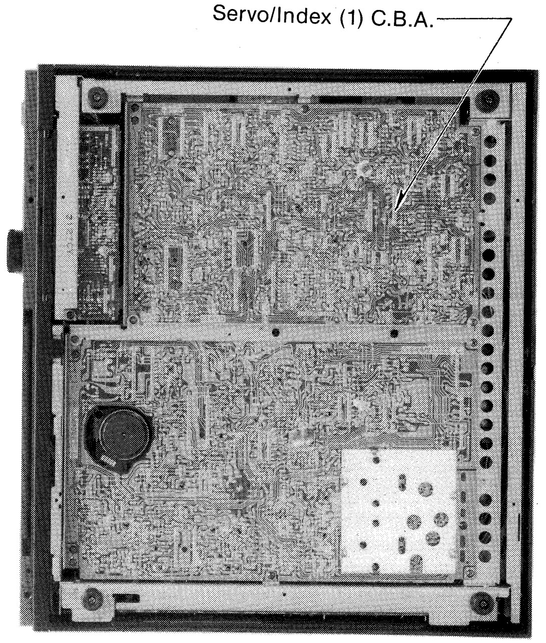
PIN NO.	SIGNAL NAME	DESTINATION
1	WL VR	P6303-4 Operation (I) C.B.A
2	Slow VR	P1520-1 Speed Select C.B.A
3	Slow VR	P1520-3 Speed Select C.B.A
4	WL VR	P6303-3 Operation (I) C.B.A
5	SP CONT	P6402-6 Operation (II) C.B.A
6	VR Speed Select	P1520-2 Speed Select C.B.A
7	Tracking VR ⊖	P6303-5 Operation (I) C.B.A
8	Tracking VR ⊕	P6303-6 Operation (I) C.B.A
9	PG SW	— —
10	UNREG 18V	P6010-8 System Control C.B.A
11	REG 15V	P6010-1 System Control C.B.A
12	CTL Pulse	P6804-1 Counter & Index (II) Section

P2009 (Servo C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	PG	— —
2	N.H SW	P3501-6 Audio & V-Dancing COMP (I) C.B.A
3	M3	— —
4	M2	— —
5	M1	— —
6	M COM	— —
7	P3	— —
8	P2	— —
9	P1	— —
10	P COM	— —
11	GND	— —
12	OSC	— —

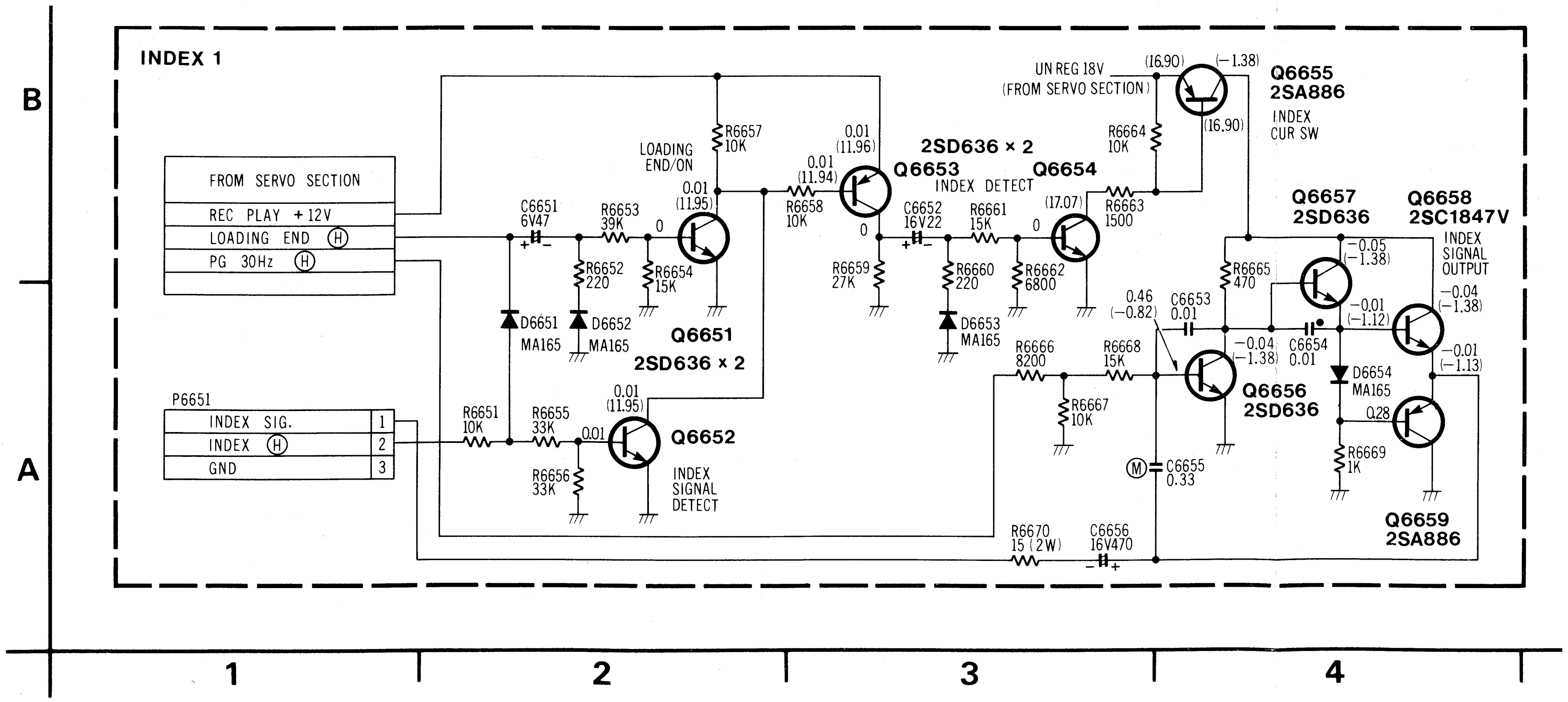
JA (Servo C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	REC 12V	JA-1 Luminance & Chrominance C.B.A
2	VSS	JA-2 Luminance & Chrominance C.B.A
3	60Hz REF	JA-3 Luminance & Chrominance C.B.A
4	Except REC 12V	JA-4 Luminance & Chrominance C.B.A
5	—	— —

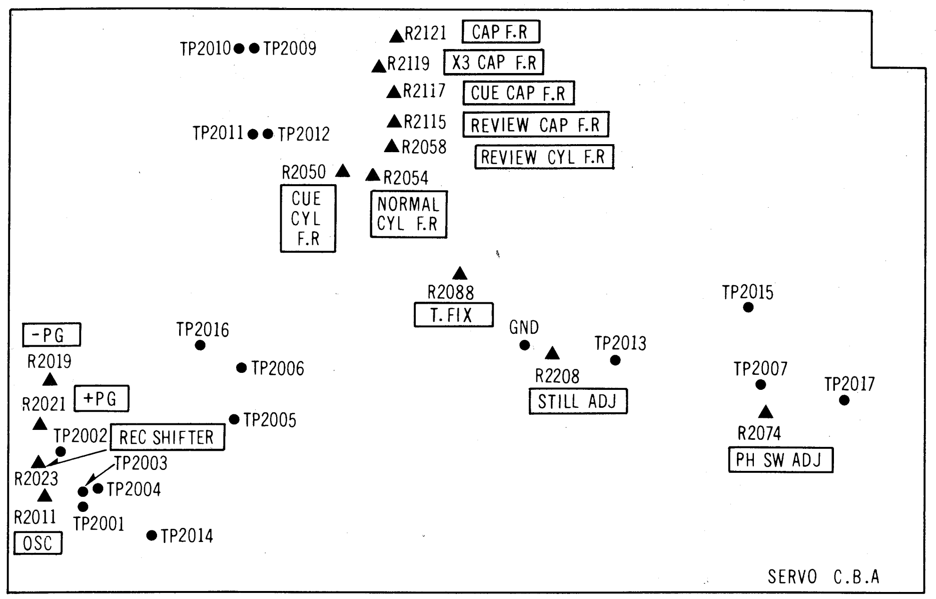
JB (Servo C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Piezo	JB-1 Luminance & Chrominance C.B.A
2	PG 30Hz	JB-2 Luminance & Chrominance C.B.A
3	Piezo PG 30Hz	JB-3 Luminance & Chrominance C.B.A
4	SLP (H)	JB-4 Luminance & Chrominance C.B.A
5	REC Play 12V	JB-5 Luminance & Chrominance C.B.A

P6651 (Servo C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Index (H)	P6001-2 System Control C.B.A
2	Index Signal	P4008-2 Audio & V-Dancing COMP (I) C.B.A
3	GND	— —


Servo/Index (1) C.B.A.

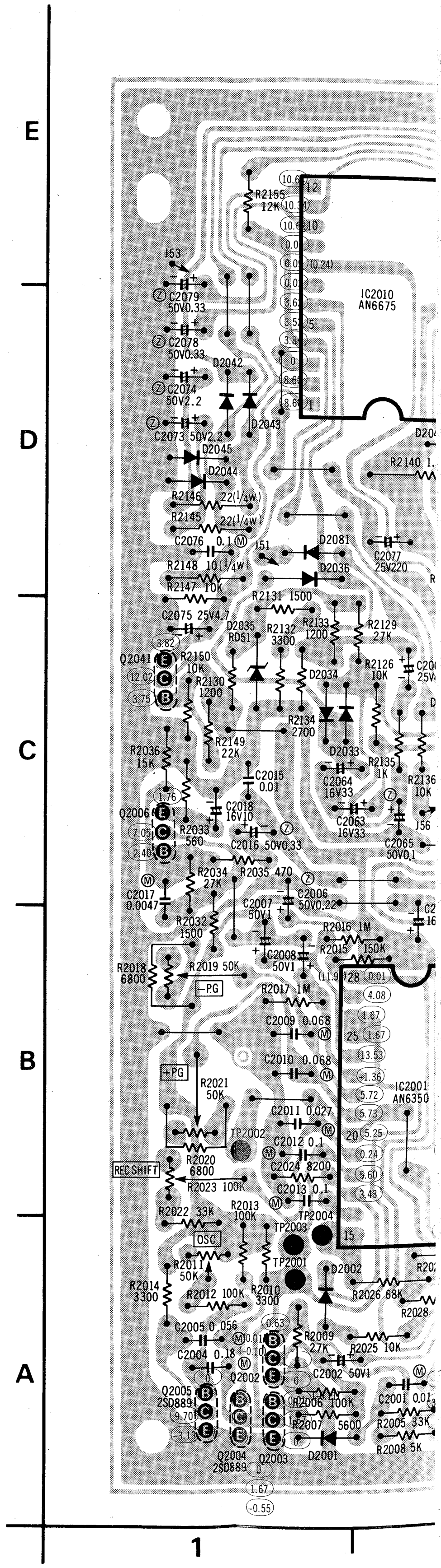
INDEX (1) SCHEMATIC DIAGRAM


INDEX 1
FROM SERVO SECTION
REC PLAY +12V
LOADING END Ⓗ
PG 30Hz Ⓗ
P6651
INDEX SIG. 1
INDEX Ⓗ 2
GND 3
Q6651 2SD636 × 2
Q6652
INDEX SIGNAL DETECT
Q6653
2SD636 × 2
Q6654
INDEX DETECT
LOADING END/ON
UN REG 18V (FROM SERVO SECTION)
Q6655 2SA886
INDEX CUR SW
Q6656 2SD636
Q6657 2SD636
Q6658 2SC1847V
INDEX SIGNAL OUTPUT
Q6659 2SA886
C6651 6V47
R6653 39K
R6652 220
R6654 15K
D6651 MA165
D6652 MA165
R6651 10K
R6655 33K
R6656 33K
R6657 10K
R6658 10K
R6659 27K
C6652 16V22
R6661 15K
R6660 220
R6662 6800
D6653 MA165
R6664 10K
R6663 1500
R6665 470
R6666 8200
R6668 15K
R6667 10K
C6653 0.01
C6654 0.01
D6654 MA165
R6669 1K
C6655 0.33
R6670 15 (2W)
C6656 16V470
B
A
1
2
3
4


TP2010 TP2009
R2121 CAP F.R
R2119 X3 CAP F.R
R2117 CUE CAP F.R
R2115 REVIEW CAP F.R
R2058 REVIEW CYL F.R
TP2011 TP2012
R2050 CUE CYL F.R
R2054 NORMAL CYL F.R
R2088 T.FIX
GND
R2208 STILL ADJ
TP2013
TP2015
TP2007
TP2017
R2074 PH SW ADJ
-PG
R2019
R2021 +PG
TP2016
TP2006
TP2005
TP2002 REC SHIFTER
TP2003
R2023
TP2004
R2011 OSC
TP2001
TP2014
SERVO C.B.A

Servo & Index (1) C.B.A.			
Servo & Section		Q2047	B-4
Q2001	A-2	Q2048	A-4
Q2002	A-1	Q2049	C-3
Q2003	A-1	Q2050	A-4
Q2004	A-1	Q2051	A-4
Q2005	A-1	Q2052	B-5
Q2006	C-1	Q2053	A-4
Q2007	A-2	Q2054	B-4
Q2008	D-7	Q2055	A-5
Q2009	C-7	Q2056	A-5
Q2010	B-2	Q2057	B-5
Q2011	C-3	Q2058	D-6
Q2012	D-4	Q2059	D-6
Q2013	D-4	Q2060	B-7
Q2014	D-4	Q2061	A-5
Q2015	D-2		
Q2016	D-5	IC2001	B-2
Q2017	D-6	IC2002	B-3
Q2018	D-6	IC2003	B-7
Q2019	D-6	IC2004	B-7
Q2020	E-7	IC2005	B-7
Q2021	D-5	IC2007	B-7
Q2022	D-5	IC2008	E-6
Q2023	D-7	IC2009	E-3
Q2024	E-7	IC2010	D-2
Q2025	D-4	IC2011	E-5
Q2026	D-4	IC2012	E-5
Q2027	E-5	IC2013	D-6
Q2028	D-4	IC2014	E-7
Q2029	D-4	IC2015	B-5
Q2030	E-4	IC2016	B-6
Q2031	E-4	IC2017	D-7
Q2032	E-6	IC2018	D-5
Q2033	C-2	IC2019	B-5
Q2035	C-4		
Q2036	C-4	Index Section (1)	
Q2037	B-6	Q6551	A-6
Q2038	B-6	Q6552	A-7
Q2039	B-6	Q6553	A-7
Q2040	B-5	Q6554	A-7
Q2041	C-1	Q6555	A-7
Q2042	B-4	Q6556	A-8
Q2043	B-4	Q6557	A-7
Q2044	C-4	Q6558	A-7
Q2045	B-5	Q6559	A-7
Q2046	B-4		

SERVO/INDEX (1


E
D
C
B
A
1
IC2010 AN6675
IC2001 AN6350
R2155 12K
J53
C2079 50V0.33
C2078 50V0.33
C2074 50V2.2
C2073 50V2.2
D2042
D2043
D2045
D2044
R2140
R2146 22(1/4W)
R2145 22(1/4W)
C2076 0.1
J51
D2081
C2077 25V220
R2148 10(1/4W)
R2147 10K
R2131 1500
D2036
C2075 25V4.7
D2035 RD51
R2132 3300
R2133 1200
R2129 27K
Q2041
R2150 10K
R2130 1200
D2034
R2126 10K
R2134 2700
R2036 15K
R2149 22K
D2033
R2135 1K
R2136 10K
C2015 0.01
C2064 16V33
C2063 16V33
Q2006
C2018 16V10
R2033 560
C2016 50V0.33
C2065 50V0.1
J56
C2017 0.0047
R2034 27K
R2035 470
C2007 50V1
C2006 50V0.22
R2032 1500
R2016 1M
R2018 6800
R2019 50K
C2008 50V1
R2015 150K
-PG
R2017 1M
C2009 0.068
C2010 0.068
+PG
R2021 50K
C2011 0.027
TP2002
C2012 0.1
REC SHIFT
R2020 6800
C2024 8200
R2023 100K
C2013 0.1
R2022 33K
R2013 100K
TP2004
TP2003
OSC
R2011 50K
TP2001
D2002
R2014 3300
R2012 100K
R2010 3300
R2026 68K
R2028
C2005 0.056
C2004 0.18
R2009 27K
R2025 10K
Q2005 2SD889
C2002 50V1
R2006 100K
C2001 0.01
R2007 5600
R2005 33K
Q2004 2SD889
Q2003
Q2002
D2001
R2008 5K

SERVO/INDEX (1) C.B.A. (VEP02145A)

JA

1	REC 12V
2	VSS
3	60Hz REF
4	EXCEPT REC 12V
5	———

JB

1	PIEZO Ⓛ
2	PG 30Hz
3	PIEZO PG 30Hz
4	SLP Ⓗ
5	REC PLAY 12V

P2001

P1006 — 7	1	REG 12V
P1007 — 5	2	REG −12V
	3	———
P1006 — 2	4	GND
P1011 — 2	5	GND
P1007 — 8	6	UNREG 18V

P2002

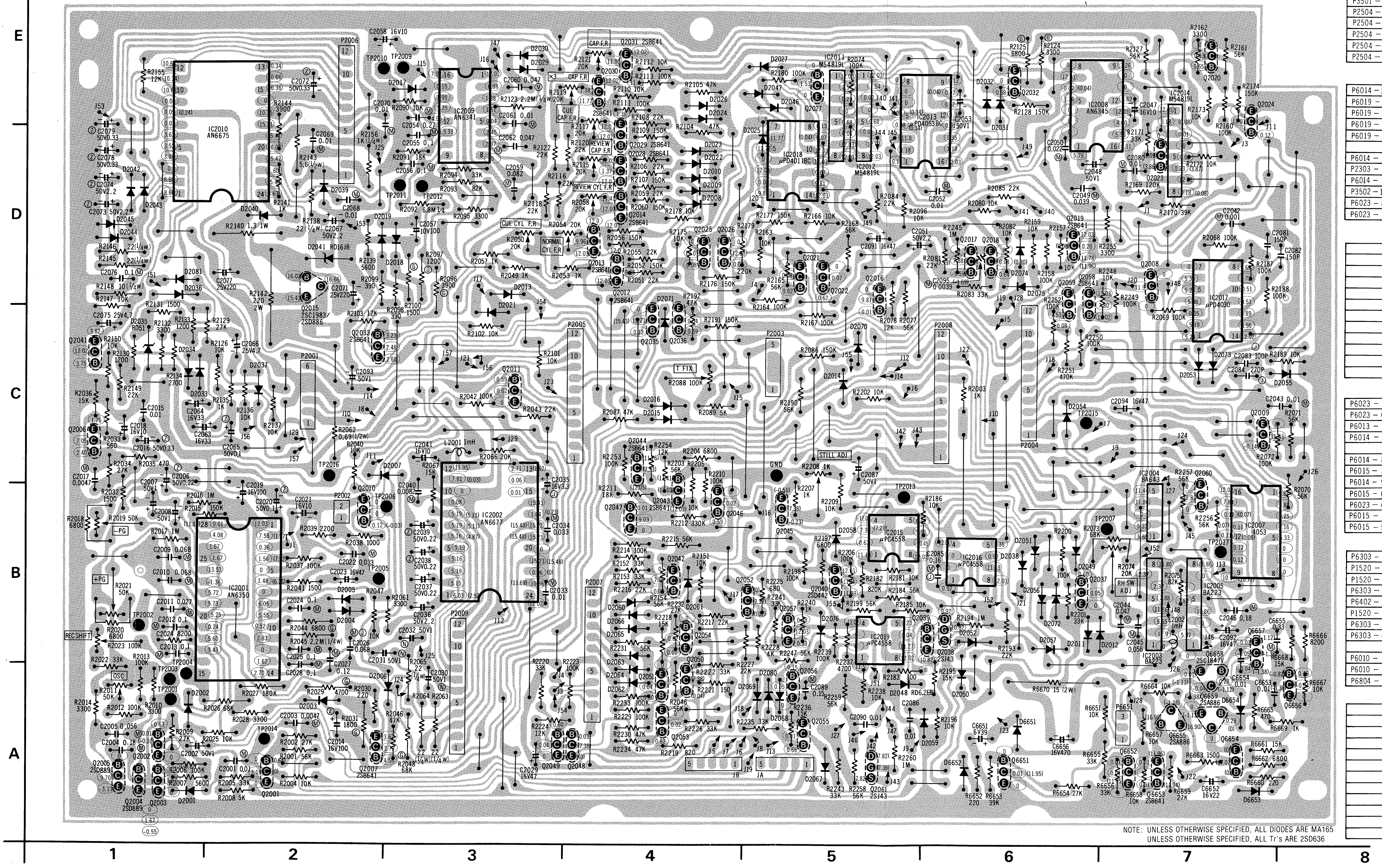
P1521 — 7	1	CTL
	2	CTL GND

P2003

P3502 — 9	1	REVIEW Ⓛ
P2503 — 5	2	SLOW Ⓛ
P6402 — 3	3	SLOW Ⓛ
P3502 — 3	4	SLOW Ⓛ
P3502 — 11	5	TRACKING SHIFT

P6651

P6001 — 2	1	INDEX Ⓗ
P4008 — 2	2	INDEX SIGNAL
	3	GND



P2004

P2504 — 5	1	P. H SW
P2504 — 1	2	P. H SW ADJ
P2504 — 3	3	FG2 (90)
P2503 — 4	4	FG3
P2504 — 11	5	WINDOW COM.
P2503 — 1	6	VLO
P3501 — 9	7	EX. H. SW
P2504 — 8	8	CUE Ⓗ
P2504 — 9	9	REVIEW Ⓗ
P2504 — 2	10	REG −12V
P2504 — 4	11	SLP Ⓗ
P2504 — 12	12	FG1 (REF)

P2005

P6014 — 10	1	REC PLAY 12V
P6019 — 5	2	EXCEPT REC 12V
P6019 — 6	3	REC 12V
P6019 — 8	4	CYL LOCK
P6019 — 1	5	CYL ON/OFF
	6	———
P6014 — 7	7	REVIEW Ⓛ
P2303 — 3	8	CAP OFF Ⓛ
P6014 — 1	9	LOADING END Ⓗ
P3502 — 10	10	PIEZO DL Ⓛ
P6023 — 8	11	CAP BRAKE
P6023 — 1	12	REVERSE

P2006

M1	1	P007 — 1
LED +5V	2	P006 — 6
OSC	3	P007 — 6
VCC	4	P006 — 2
P COM	5	P007 — 7
GND	6	P006 — 5
P1	7	P007 — 4
P2	8	P007 — 8
P3	9	P006 — 3
M COM	10	P007 — 2
M3	11	P007 — 5
M2	12	P006 — 1

P2007

P6023 — 7	1	PIEZO DL Ⓛ
P6023 — 6	2	PAUSE Ⓛ
P6013 — 1	3	CUE/REVIEW Ⓛ
P6014 — 5	4	CUE Ⓛ
	5	———
P6014 — 8	6	−1/3
P6015 — 3	7	STILL Ⓛ
P6014 — 9	8	−1/10
P6015 — 6	9	F. ADV Ⓗ
P6023 — 4	10	CAP ON/OFF
P6015 — 1	11	SLOW Ⓗ
P6015 — 5	12	W. L SLOW Ⓗ

P2008

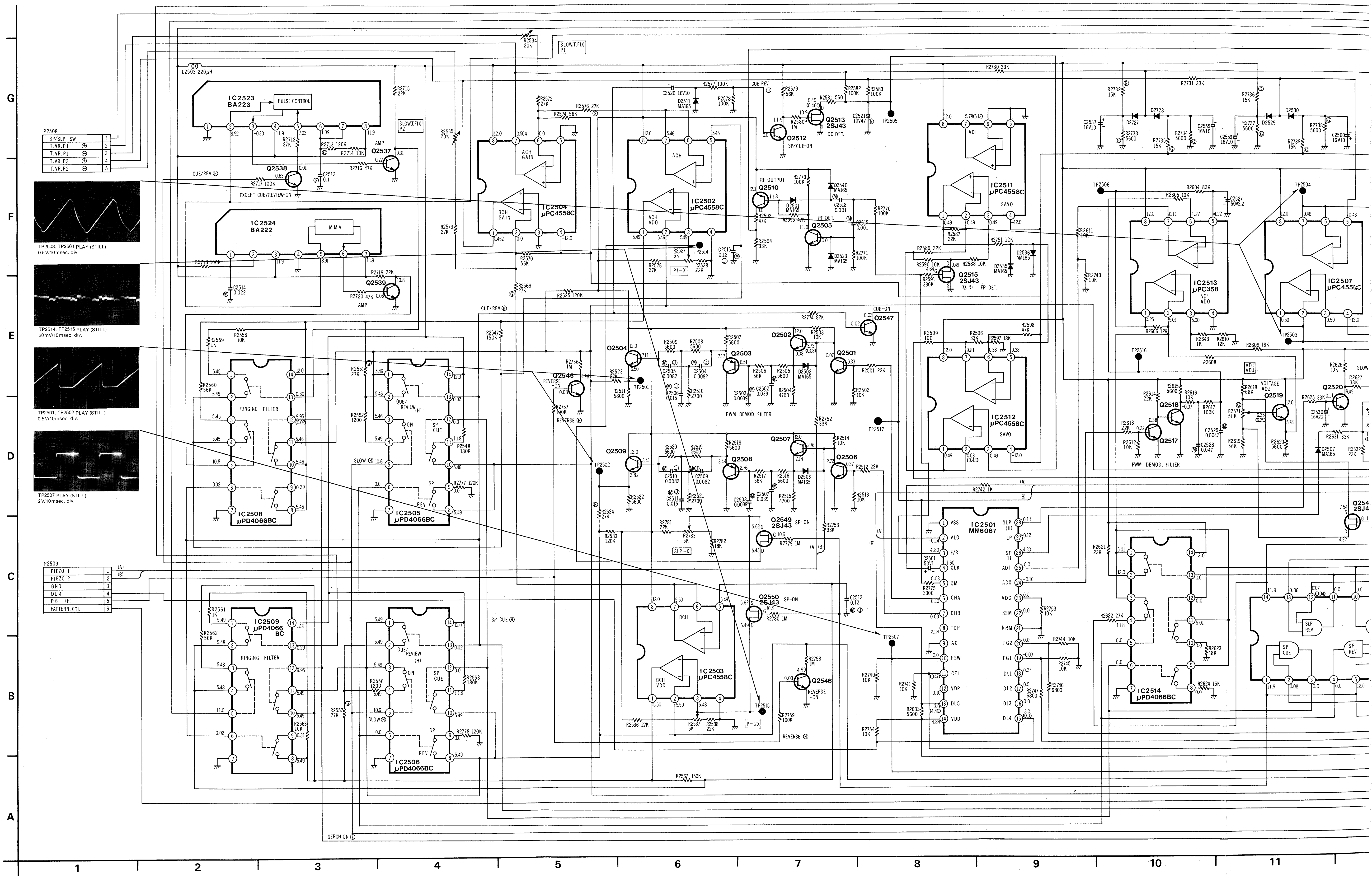
P6303 — 4	1	WL VR
P1520 — 1	2	SLOW VR
P1520 — 3	3	SLOW VR
P6303 — 3	4	WL VR
P6402 — 6	5	SP. CONT
P1520 — 2	6	VR SPEED SELECT
P6303 — 5	7	TRACKING VR ⊖
P6303 — 6	8	TRACKING VR ⊕
	9	PG SW
P6010 — 8	10	UNREG 18V
P6010 — 1	11	REG 15V
P6804 — 1	12	CTL PULSE

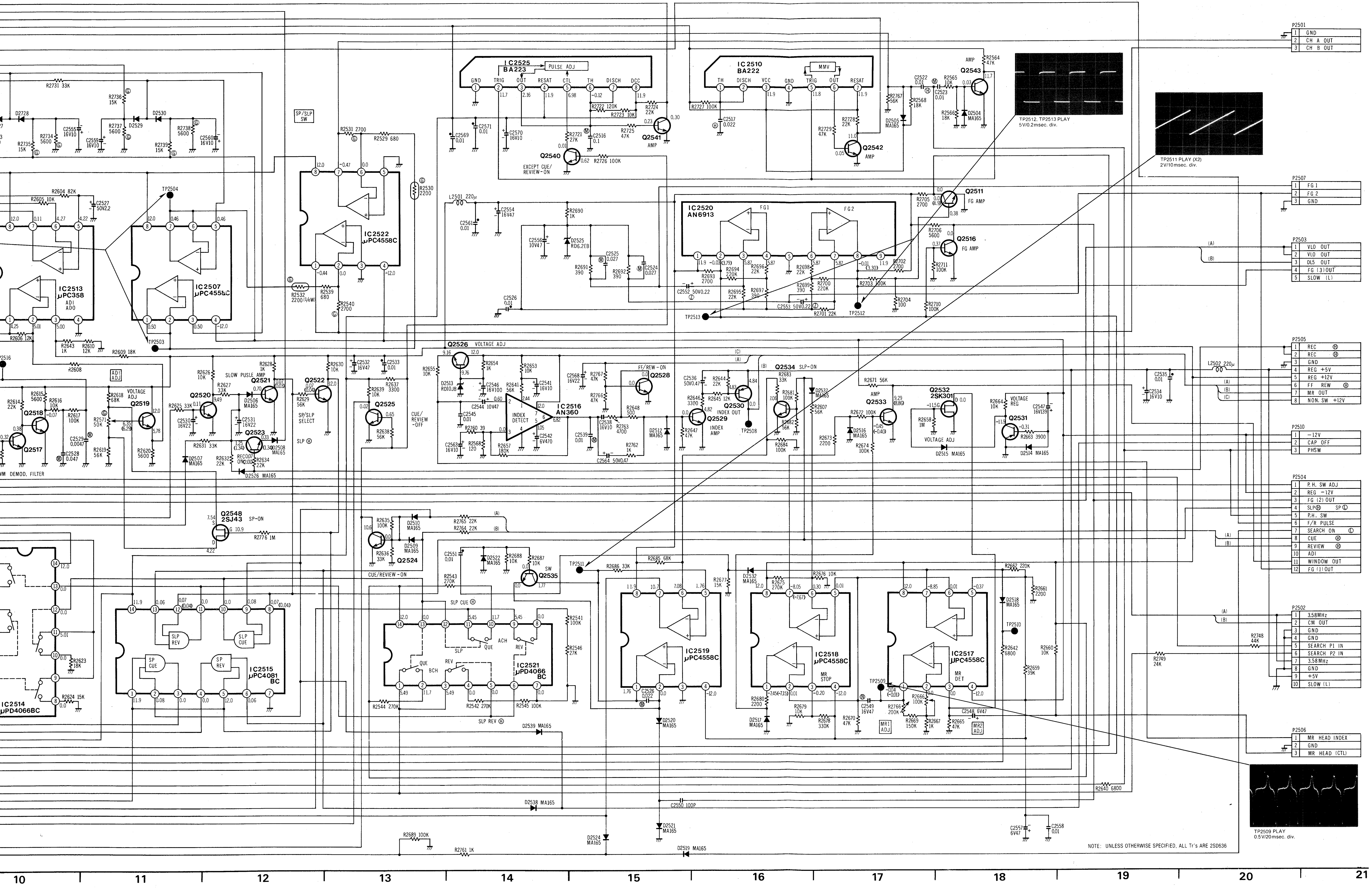
P2009

PG	1	
N. H SW	2	P3501 — 6
M3	3	
M2	4	
M1	5	
M COM	6	
P3	7	
P2	8	
P1	9	
P COM	10	
GND	11	
OSC	12	

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

PATTERN GENERATOR SCHEMATIC DIAGRAM


G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
P2508
SP/SLP SW
T.VR.P1 ⊕
T.VR.P1 ⊖
T.VR.P2 ⊕
T.VR.P2 ⊖
TP2503, TP2504 PLAY (STILL)
0.5V/10msec. div.
TP2514, TP2515 PLAY (STILL)
20mV/10msec. div.
TP2501, TP2502 PLAY (STILL)
0.5V/10msec. div.
TP2507 PLAY (STILL)
2V/10msec. div.
P2509
PIEZO 1
PIEZO 2
GND
DL 4
P 6 (H)
PATTERN CTL
L2503 220μH
IC2523
BA223
PULSE CONTROL
IC2524
BA222
MMV
Q2537
Q2538
Q2539
AMP
EXCEPT CUE/REVIEW-ON
CUE/REV
SLOW.T.FIX P1
SLOW.T.FIX P2
R2534 20K
IC2504
μPC4558C
ACH GAIN
BCH GAIN
IC2502
μPC4558C
ACH ADO
P1-X
CUE REV
Q2510
RF OUTPUT
RF DET.
Q2505
Q2512
SP/CUE-ON
Q2513
2SJ43
DC DET.
TP2505
IC2511
μPC4558C
ADI
SAVO
Q2515
2SJ43
FR DET.
IC2512
μPC4558C
IC2513
μPC358
ADI ADO
IC2507
μPC4558C
TP2506
TP2504
TP2503
TP2516
ADJ
VOLTAGE ADJ
Q2517
Q2518
Q2519
Q2520
PWM DEMOD. FILTER
IC2508
μPD4066BC
RINGING FILTER
IC2505
μPD4066BC
QUE/REVIEW (H)
SP CUE
SLOW
REV
IC2509
μPD4066BC
IC2506
μPD4066BC
SP CUE
Q2504
Q2545
REVERSE-ON
TP2501
Q2503
Q2502
Q2501
Q2547
CUE-ON
Q2509
Q2508
Q2507
Q2506
TP2502
TP2517
Q2549
2SJ43
SP-ON
SLP-X
IC2501
MN6067
VSS
VLO
F/R
CLK
CM
CHA
CHB
TCP
AC
HSW
CTL
VDP
DL5
VDD
SLP (H)
LP
SP (H)
ADI
ADO
ADC
SSM
NRM
FG2
FG1
DL1
DL2
DL3
DL4
IC2503
μPC4558C
BCH VDD
Q2550
2SJ43
SP-ON
TP2507
TP2515
P-2X
Q2546
REVERSE-ON
IC2514
μPD4066BC
SLP REV
SP CUE
SP REV
SERCH ON


IC2525 BA223
PULSE ADJ
GND TRIG OUT RESAT CTL TH DISCH DCC
IC2510 BA222
TH DISCH VCC GND TRIG OUT RESAT
MMV
Q2541 AMP
Q2540
EXCEPT CUE/ REVIEW-ON
Q2542 AMP
Q2543 AMP
TP2512, TP2513 PLAY
5V/0.2msec. div.
TP2511 PLAY (X2)
2V/10msec. div.
SP/SLP SW
IC2522 μPC4558C
IC2513 μPC358
ADI ADD
IC2507 μPC4558C
TP2504
TP2503
IC2520 AN6913
FG1
FG2
Q2511 FG AMP
Q2516 FG AMP
TP2513
TP2512
L2501 220μ
Q2526 VOLTAGE ADJ
IC2516 AN360
INDEX DETECT
FF/REW-ON
Q2528
Q2529 INDEX AMP
Q2530 INDEX OUT
TP2508
Q2534 SLP-ON
Q2533 AMP
Q2532 2SK301
VOLTAGE ADJ
Q2531
VOLTAGE REG
L2502 220μ
SLOW PUSLE AMP
Q2521
Q2520
Q2522
SP/SLP SELECT
SLP Ⓗ
Q2525
CUE/ REVIEW -OFF
Q2518
Q2519 VOLTAGE ADJ
Q2517
ADI ADJ
Q2523 REC·CUE ON
FM DEMOD. FILTER
Q2548 2SJ43 SP-ON
Q2524
CUE/REVIEW-ON
Q2535 SW
TP2511
TP2510
TP2509
IC2514 μPD4066BC
IC2515 μPC4081 BC
SLP REV
SLP CUE
SP CUE
SP REV
IC2521 μPD4066 BC
SLP CUE Ⓗ
QUE BCH REV SLP ACH
SLP REV Ⓗ
IC2519 μPC4558C
IC2518 μPC4558C
MR STOP
IC2517 μPC4558C
MR DET
MR1 ADJ
MR2 ADJ
P2501
1 GND
2 CH A OUT
3 CH B OUT
P2507
1 FG 1
2 FG 2
3 GND
P2503
1 VLO OUT
2 VLO OUT
3 DL5 OUT
4 FG (3) OUT
5 SLOW (L)
P2505
1 REC Ⓗ
2 REC Ⓗ
3 GND
4 REG +5V
5 REG +12V
6 FF REW Ⓗ
7 MR OUT
8 NON. SW +12V
P2510
1 −12V
2 CAP OFF
3 PHSW
P2504
1 P.H. SW ADJ
2 REG −12V
3 FG (2) OUT
4 SLPⒽ SPⓁ
5 P.H. SW
6 F/R PULSE
7 SEARCH ON Ⓛ
8 CUE Ⓗ
9 REVIEW Ⓗ
10 ADI
11 WINDOW OUT
12 FG (1) OUT
P2502
1 3.58MHz
2 CM OUT
3 GND
4 GND
5 SEARCH P1 IN
6 SEARCH P2 IN
7 3.58MHz
8 GND
9 +5V
10 SLOW (L)
P2506
1 MR HEAD INDEX
2 GND
3 MR HEAD (CTL)
TP2509 PLAY
0.5V/20msec. div.
NOTE: UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636
10
11
12
13
14
15
16
17
18
19
20
21

P2501 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P2803-4 Piezo Drive C.B.A
2	CH A Out	P2803-5 Piezo Drive C.B.A
3	CH B Out	P2803-6 Piezo Drive C.B.A

P2502 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	3.58MHz	P2301-4 Search & Sub System Control (I) C.B.A
2	CM Out	P2302-10 Search & Sub System Control (I) C.B.A
3	GND	— —
4	GND	— —
5	Search A In	P2303-1 Search & Sub System Control (I) C.B.A
6	Search B In	P2303-2 Search & Sub System Control (I) C.B.A
7	3.58MHz	P6701-4 Remaining Tape Time Display Section
8	GND	P6903-3 Sub System Control (II) Section
9	5V	P6701-6 Remaining Tape Time Display Section
10	Slow (L)	P6901-7 Sub System Control (II) Section

P2503 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	VLO Out	P2004-6 Servo C.B.A
2	VLO Out	— —
3	DL5 Out	P3502-5 V-Dancing COMP (I) Section
4	FG3	P2004-4 Servo C.B.A
5	Slow (L)	P2003-2 Servo C.B.A

P2504 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Piezo H SW ADJ	P2004-2 Servo C.B.A
2	REG −12V	P2004-10 Servo C.B.A
3	FG (2) OUT	P2004-3 Servo C.B.A
4	SLP (H)	P2004-11 Servo C.B.A
5	P. H. SW	P2004-1 Servo C.B.A
6	F/R Pulse	P6023-5 System Control C.B.A
7	Search On (L)	P2303-5 Search & Sub System Control (I) C.B.A
8	CUE (H)	P2004-8 Servo C.B.A
9	Review (H)	P2004-9 Servo C.B.A
10	ADI Inhibit	P2302-11 Search & Sub System Control (I) C.B.A
11	Window Out	P2004-5 Servo C.B.A
12	FG (I) Out	P2004-12 Servo C.B.A

P2505 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	REC (H)	P6019-7 System Control C.B.A
2	REC (H)	— —
3	GND	P6019-2 System Control C.B.A
4	REG 5V	P6017-4 System Control C.B.A
5	REG 12V	P6019-3 System Control C.B.A
6	FF REW (H)	P6302-9 Operation (I) C.B.A
7	MR Out (In)	P6804-2 Counter & Index (II) Section
8	Non SW 12V	P6010-5 System Control C.B.A

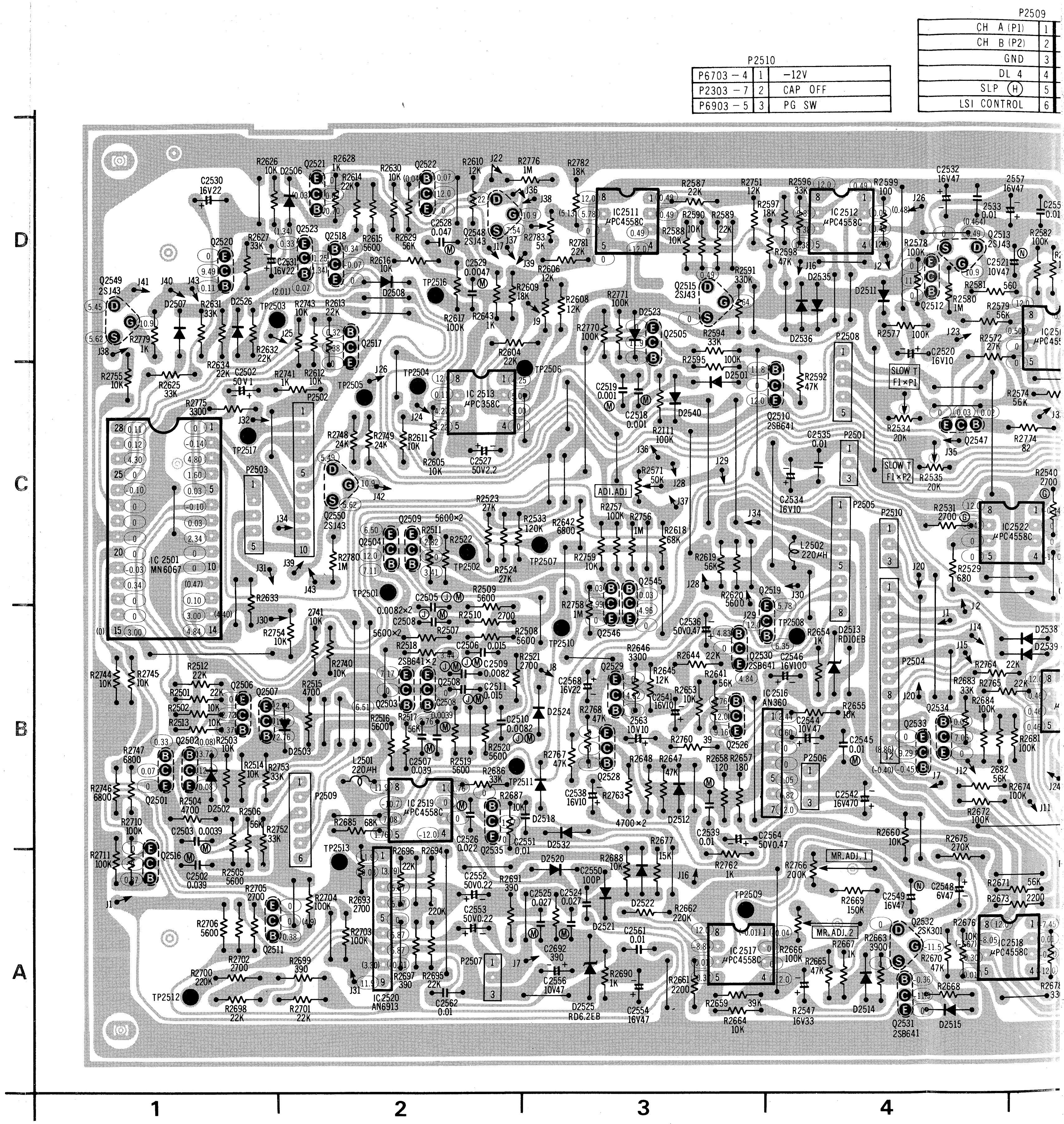
P2509 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	CH A (P1)	P3501-7 V-Dancing COMP (I) Section
2	CH B (P2)	P3501-5 V-Dancing COMP (I) Section
3	GND	P3501-8 V-Dancing COMP (I) Section
4	DL4	P3502-2 V-Dancing COMP (I) Section
5	P6 (H)	P6901-5 Sub-System Control (II) Section
6	LSI Control	P6707-6 Remaining Tape Time Display Section

P2510 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	−12V	P6903-4 Sub System Control (II) Section
2	Cap Off	P2303-7 Search & Sub System Control (I) C.B.A
3	PG SW	P6903-5 Sub System Control (II) Section

P2508 (Pattern Generator C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	SP/SLP Select SW	P6304-5 Operation (I) C.B.A
2	VR1 ⊕	P6304-2 Operation (I) C.B.A
3	VR1 ⊖	P6304-1 Operation (I) C.B.A
4	VR2 ⊕	P6304-3 Operation (I) C.B.A
5	VR2 ⊖	P6304-4 Operation (I) C.B.A

Pattern Generator C.B.A.	
Q2501	B-1
Q2502	B-1
Q2503	B-2
Q2504	C-2
Q2505	D-3
Q2506	B-1
Q2507	B-1
Q2508	B-2
Q2509	C-2
Q2510	C-4
Q2511	A-1
Q2512	D-4
Q2513	D-4
Q2514	B-3
Q2515	D-3
Q2516	A-1
Q2517	D-2
Q2518	D-2
Q2520	D-1
Q2521	D-2
Q2522	D-2
Q2523	D-2
Q2524	B-6
Q2525	B-6
Q2526	B-3
Q2528	B-3
Q2529	B-3
Q2530	B-3
Q2531	A-4
Q2532	A-4
Q2533	B-4
Q2534	B-4
Q2535	B-2
Q2537	C-6
Q2538	C-6
Q2539	B-7
Q2540	B-6
Q2541	B-6
Q2542	A-6
Q2543	A-6
Q2545	B-3
Q2546	B-3
Q2547	C-4
Q2548	D-2
Q2549	D-1
Q2550	C-2
IC2501	C-1
IC2502	D-5
IC2503	B-6
IC2504	D-5
IC2505	D-6
IC2506	C-6
IC2507	B-5
IC2508	D-6
IC2509	C-7
IC2510	A-7
IC2511	D-3
IC2512	D-4
IC2513	C-2
IC2514	A-5
IC2515	A-6
IC2516	B-4
IC2517	A-3
IC2518	A-5
IC2519	B-2
IC2520	A-2
IC2521	B-5
IC2522	C-5
IC2523	B-6
IC2524	B-7
IC2525	A-7

PATTERN GENERATOR C.B.A. (VEP02146A)


P2510
P6703 − 4 | 1 | −12V
P2303 − 7 | 2 | CAP OFF
P6903 − 5 | 3 | PG SW
P2509
CH A (P1) 1
CH B (P2) 2
GND 3
DL 4 4
SLP (H) 5
LSI CONTROL 6
D
C
B
A
1
2
3
4
IC 2501 MN6067
IC 2511 μPC4558C
IC 2512 μPC4558C
IC 2513 μPC358C
IC 2522 μPC4558C
IC 2516 AN360
IC 2519 μPC4558C
IC 2517 μPC4558C
IC 2518 μPC4558C
IC 2520 AN6913
SLOW T F1×P1
SLOW T F1×P2
ADJ. ADJ
MR. ADJ. 1
MR. ADJ. 2
L2502 220μH
L2501 220μH
TP2501
TP2502
TP2503
TP2504
TP2505
TP2506
TP2507
TP2508
TP2509
TP2510
TP2511
TP2512
TP2513
TP2516
TP2517
P2501
P2502
P2503
P2504
P2505
P2506
P2507
P2508
P2509
P2510

P2510

	1	−12V
	2	CAP OFF
	3	PG SW

P2509

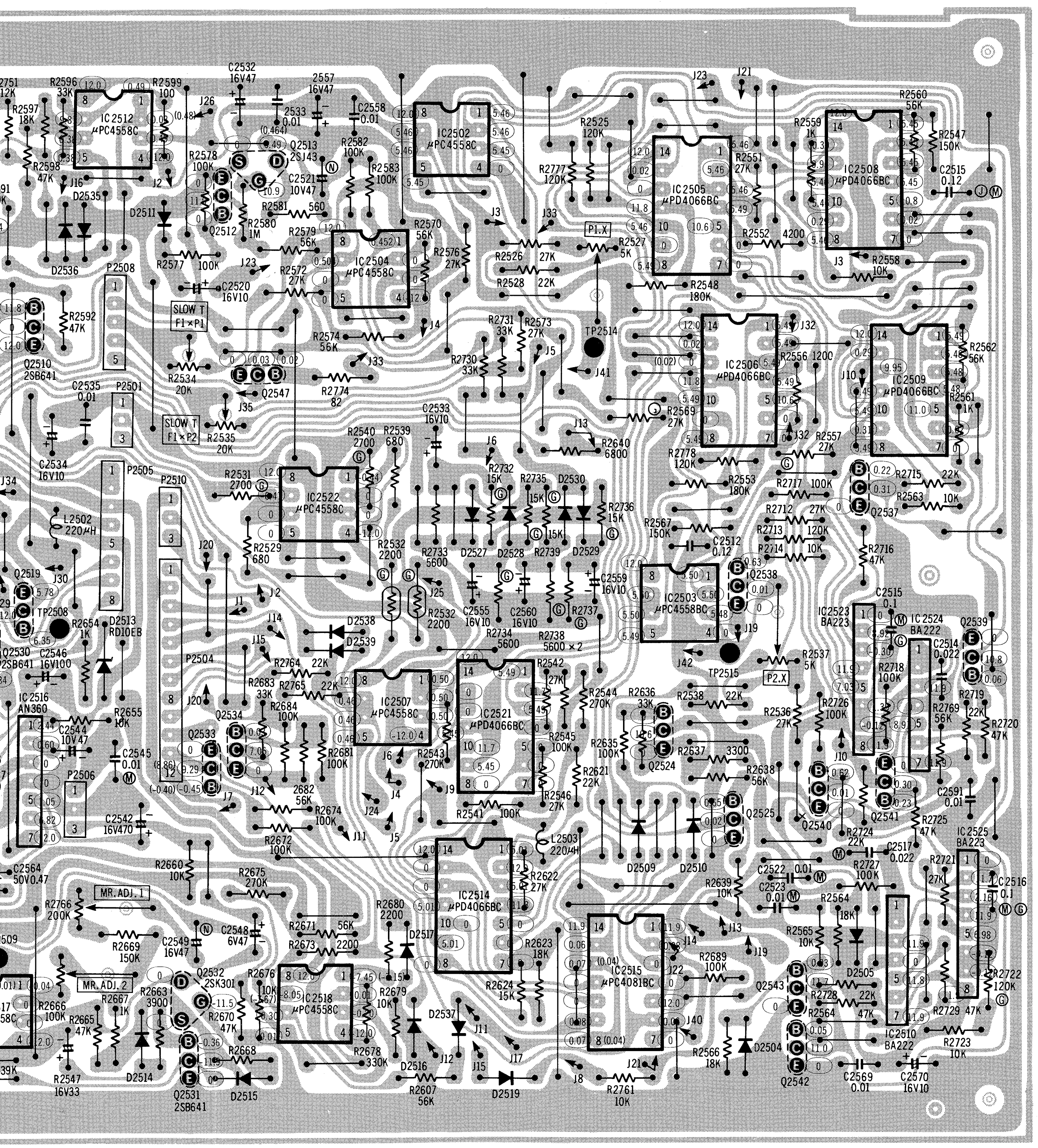
CH A (P1)	1	P3501 − 7
CH B (P2)	2	P3501 − 5
GND	3	P3501 − 8
DL 4	4	P3502 − 2
SLP Ⓗ	5	P6901 − 5
LSI CONTROL	6	P6707 − 6

P2508

P6304 − 5	1	SP/SLP SELECT SW
P6304 − 2	2	VR1 ⊕
P6304 − 1	3	VR1 ⊖
P6304 − 3	4	VR2 ⊕
P6304 − 4	5	VR2 ⊖

P2507

P008 − 3	1	FG2
P008 − 1	2	FG1
P008 − 2	3	GND


IC2512 μPC4558C
IC2502 μPC4558C
IC2505 μPD4066BC
IC2508 μPD4066BC
IC2504 μPC4558C
IC2506 μPD4066BC
IC2509 μPD4066BC
IC2522 μPC4558C
IC2503 μPC4558C
IC2523 BA223
IC2524 BA222
IC2516 AN360
IC2507 μPC4558C
IC2521 μPD4066BC
IC2514 μPD4066BC
IC2515 μPC4081BC
IC2518 μPC4558C
IC2510 BA222
IC2525 BA223
TP2514
TP2508
TP2515
P2508
P2501
P2505
P2510
P2504
P2506
SLOW T F1×P1
SLOW T F1×P2
P1.X
P2.X
MR. ADJ. 1
MR. ADJ. 2

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165

4 5 6 7

P2501

P2803 − 4	1	GND
P2803 − 5	2	CH A OUT
P2803 − 6	3	CH B OUT

P2502

P2301 − 4	1	3.58MHz
P2302 − 10	2	CM OUT
	3	GND
	4	GND
P2303 − 1	5	SEARCH A IN
P2303 − 2	6	SEARCH B IN
P6701 − 4	7	3.58MHz
P6903 − 3	8	GND
P6701 − 6	9	5V
P6901 − 7	10	SLOW Ⓛ

P2503

P2004 − 6	1	VLO OUT
	2	VLO OUT
P3502 − 5	3	DL5 OUT
P2004 − 4	4	FG3
P2003 − 2	5	SLOW Ⓛ

P2504

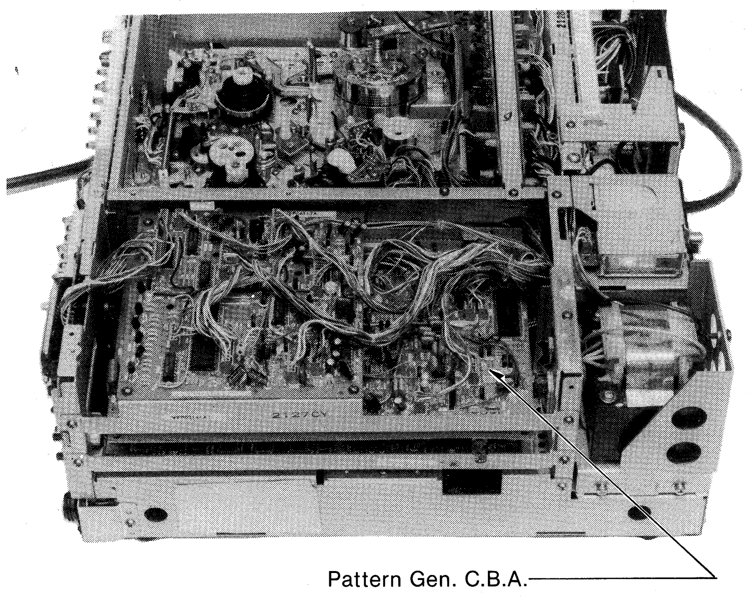
P2004 − 2	1	PIEZO H. SW ADJ
P2004 − 10	2	REG −12V
P2004 − 3	3	FG (2) OUT
P2004 − 11	4	SLP Ⓗ
P2004 − 1	5	P. H. SW
P6023 − 5	6	F/R PULSE
P2303 − 5	7	SEARCH ON Ⓛ
P2004 − 8	8	CUE Ⓗ
P2004 − 9	9	REVIEW Ⓗ
P2302 − 11	10	AD1 INHIBIT
P2004 − 5	11	WINDOW OUT
P2004 − 12	12	FG (1) OUT

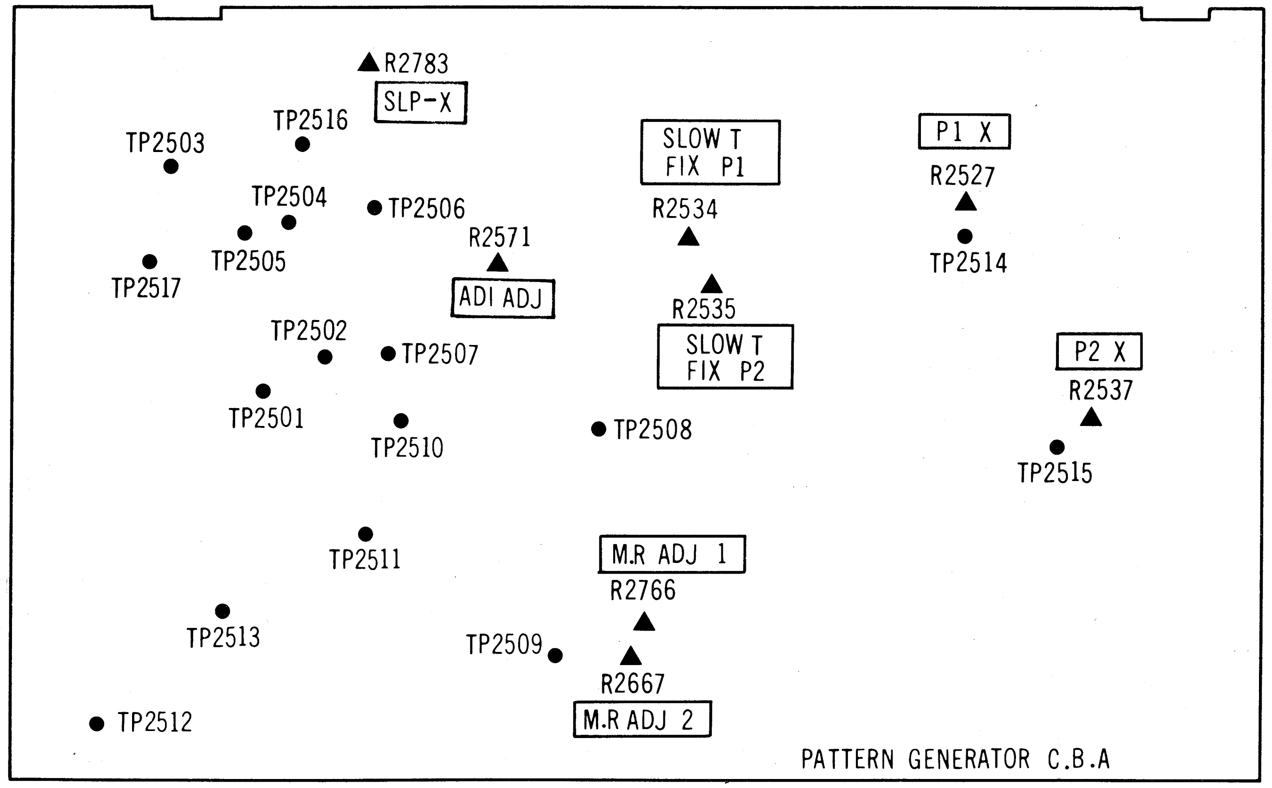
P2505

REC Ⓗ	1	P6019 − 7
REC Ⓗ	2	
GND	3	P6019 − 2
REG 5V	4	P6017 − 4
REG 12V	5	P6019 − 3
FF / REW Ⓗ	6	P6302 − 9
MR OUT (IN)	7	P6804 − 2
NON SW 12V	8	P6010 − 5

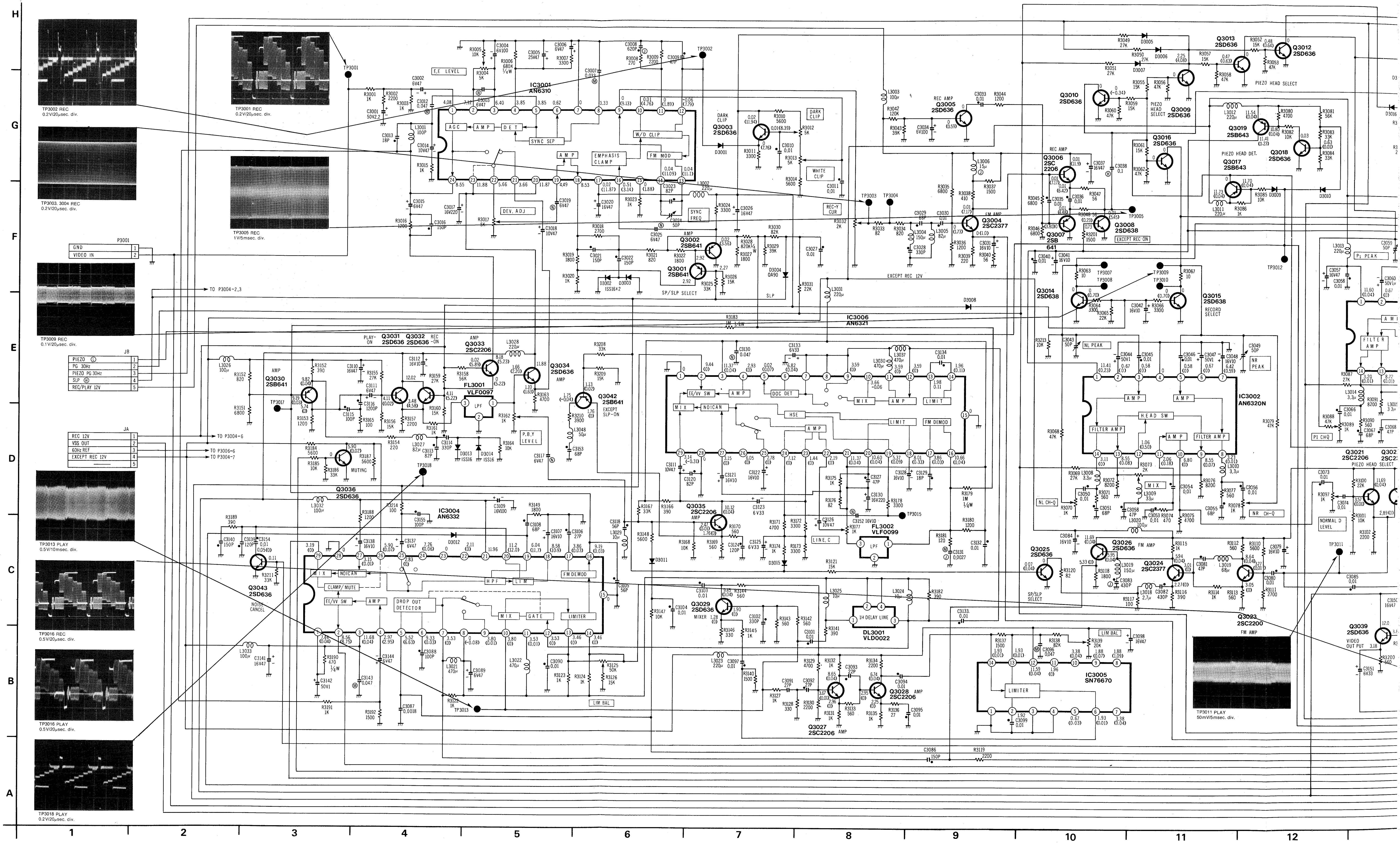
P2506

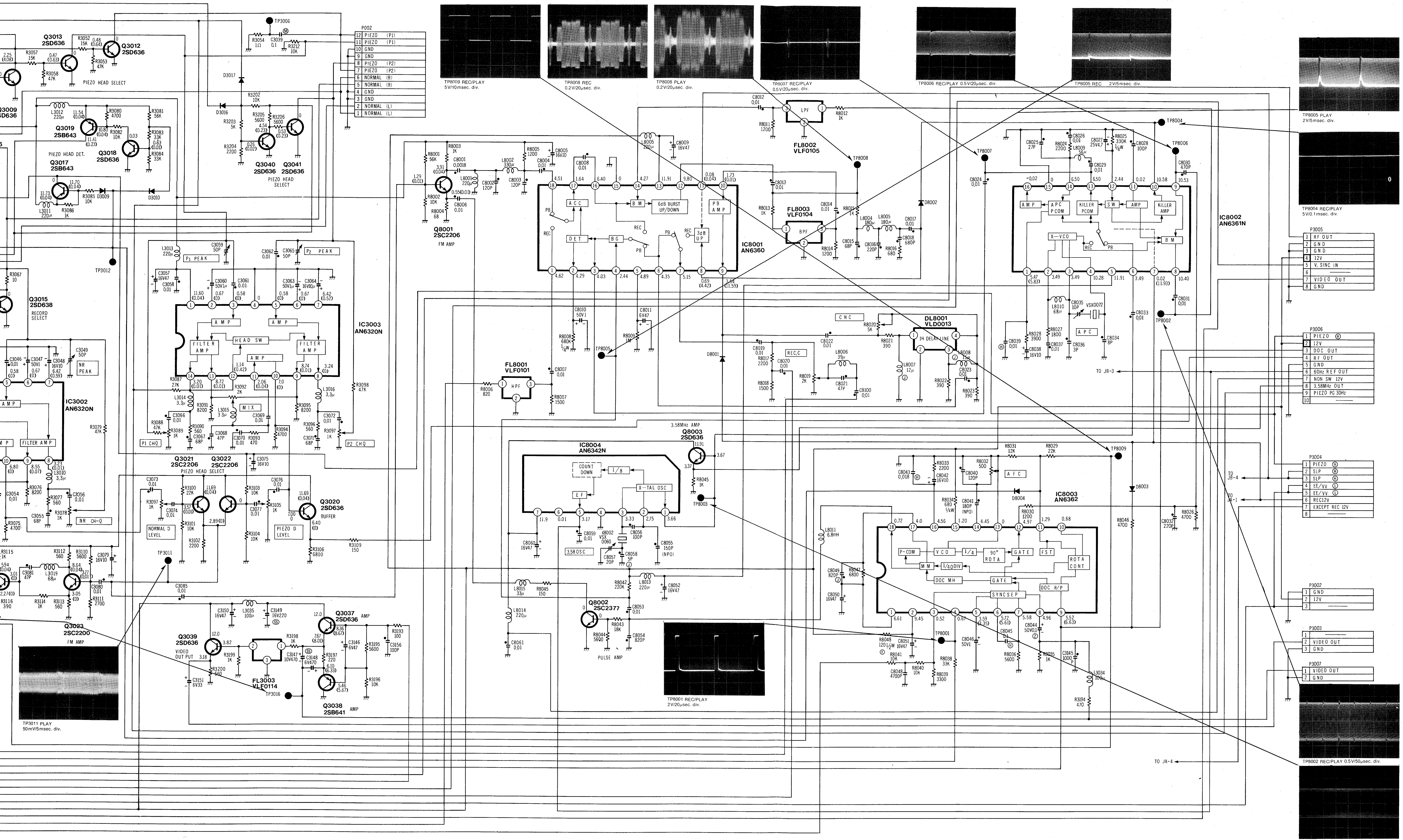
P1521 − 6	1	MR HEAD (INDEX)
	2	GND
P1521 − 5	3	MR HEAD (CTL)

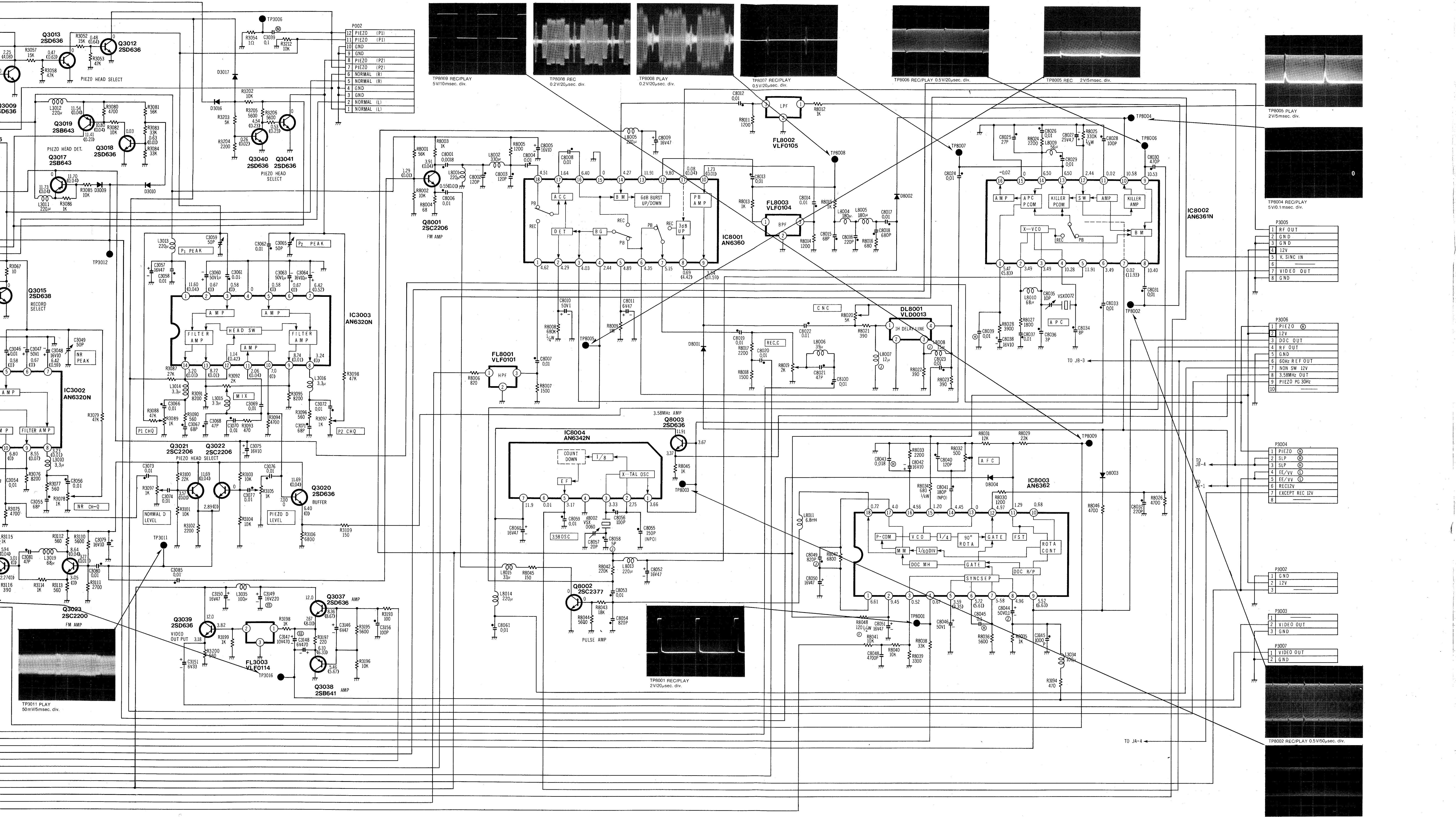

Pattern Gen. C.B.A.


R2783
SLP-X
TP2516
TP2503
TP2504
TP2506
TP2505
TP2517
R2571
ADI ADJ
SLOW T FIX P1
R2534
R2535
SLOW T FIX P2
P1 X
R2527
TP2514
TP2502
TP2507
TP2501
TP2510
TP2508
P2 X
R2537
TP2515
TP2511
M.R ADJ 1
R2766
TP2513
TP2509
R2667
M.R ADJ 2
TP2512
PATTERN GENERATOR C.B.A

LUMINANCE/CHROMINANCE SCHEMATIC DIAGRAM


H
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12
TP3002 REC
0.2V/20μsec. div.
TP3001 REC
0.2V/20μsec. div.
TP3003, 3004 REC
0.2V/20μsec. div.
TP3005 REC
1V/5msec. div.
TP3009 REC
0.1V/20μsec. div.
TP3013 PLAY
0.5V/10msec. div.
TP3016 REC
0.5V/20μsec. div.
TP3016 PLAY
0.5V/20μsec. div.
TP3018 PLAY
0.2V/20μsec. div.
TP3011 PLAY
50mV/5msec. div.
FM AMP
P3001
GND
VIDEO IN
J8
PIEZO
PG 30Hz
PIEZO PG 30Hz
SLP
REC/PLAY 12V
JA
REC 12V
VSS OUT
60Hz REF
EXCEPT REC 12V
TO P3004-2,3
TO P3004-6
TO P3006-6
TO P3004-7
IC3001
AN6310
AGC
AMP
DET
SYNC SEP
AMP
EMPHASIS CLAMP
W/D CLIP
FM MOD
E.E LEVEL
DEV. ADJ
SYNC FREQ
REC-Y CUR
DARK CLIP
WHITE CLIP
Q3003
2SD636
Q3002
2SB641
Q3001
2SB641
SP/SLP SELECT
SLP
D3002 D3003
1SS16×2
D3004
0A90
EXCEPT REC 12V
REC AMP
Q3005
2SD636
Q3004
2SC2377
FM AMP
Q3006
2SC2206
REC AMP
Q3007
2SB641
Q3008
2SD638
EXCEPT REC ON
Q3010
2SD636
Q3009
2SD636
PIEZO HEAD SELECT
Q3013
2SD636
Q3012
2SD636
PIEZO HEAD SELECT
Q3016
2SD636
Q3019
2SB643
Q3017
2SB643
Q3018
2SD636
PIEZO HEAD DET.
Q3014
2SD638
Q3015
2SD638
RECORD SELECT
TP3001
TP3002
TP3003
TP3004
TP3005
TP3007
TP3008
TP3009
TP3010
TP3012
D3005
D3006
D3007
D3008
D3009
D3010
IC3006
AN6321
EE/VV SW
AMP
DOC DET
MIX
NOICAN
HSE
AMP
MIX
AMP
LIMIT
LIMIT
FM DEMOD
Q3035
2SC2206
AMP
FL3002
VLF0099
LPF
LINE, C
TP3015
D3011
D3015
PLAY-ON
Q3031
2SD636
Q3032
2SD636
REC-ON
Q3030
2SB641
AMP
MUTING
Q3033
2SC2206
AMP
FL3001
VLF0097
LPF
Q3034
2SD636
AMP
Q3042
2SB641
EXCEPT SLP-ON
P.B.Y LEVEL
D3013
1SS16
D3014
1SS16
TP3017
TP3018
Q3036
2SD636
IC3004
AN6332
MIX
NOICAN
CLAMP/MUTE
EE/VV SW
AMP
DROP OUT DETECTOR
HPF
LIM
FM DEMOD
MIX
GATE
LIMITER
D3012
Q3043
2SD636
NOISE CANCEL
TP3013
LIM BAL
Q3029
2SD636
MIXER
DL3001
VLD0022
1H DELAY LINE
Q3027
2SC2206
AMP
Q3028
2SC2206
AMP
IC3005
SN76670
LIMITER
LIM BAL
IC3002
AN6320N
AMP
AMP
FILTER AMP
HEAD SW
AMP
FILTER AMP
MIX
NL PEAK
NR PEAK
NL CH-Q
NR CH-Q
Q3025
2SD636
SP/SLP SELECT
Q3026
2SD636
FM AMP
Q3024
2SC2377
Q3023
2SC2200
Q3021
2SC2206
PIEZO HEAD SELECT
NORMAL D LEVEL
TP3011
Q3039
2SD636
VIDEO OUT PUT
P1 PEAK
FILTER AMP
P1 CHQ
C3086
150P
R3119
2200


Q3013 2SD636
Q3012 2SD636
PIEZO HEAD SELECT
Q3009
Q3019 2SB643
Q3018 2SD636
PIEZO HEAD DET.
Q3017 2SB643
Q3040 2SD636
Q3041 2SD636
PIEZO HEAD SELECT
TP3006
P002
12 PIEZO (P1)
11 PIEZO (P1)
10 GND
9 GND
8 PIEZO (P2)
7 PIEZO (P2)
6 NORMAL (R)
5 NORMAL (R)
4 GND
3 GND
2 NORMAL (L)
1 NORMAL (L)
TP3012
Q3015 2SD638
RECORD SELECT
IC3003 AN6320N
P1 PEAK
P2 PEAK
AMP
FILTER AMP
HEAD SW
P1 CHQ
P2 CHQ
IC3002 AN6320N
NR PEAK
FILTER AMP
NR CH-Q
Q3021 2SC2206
Q3022 2SC2206
PIEZO HEAD SELECT
Q3020 2SD636
BUFFER
NORMAL D LEVEL
PIEZO D LEVEL
TP3011
Q3023 2SC2200
FM AMP
Q3039 2SD636
VIDEO OUT PUT
Q3037 2SD636
AMP
Q3038 2SB641
AMP
FL3003 VLF0114
TP3016
TP3011 PLAY 50mV/5msec. div.
TP8009 REC/PLAY 5V/10msec. div.
TP8008 REC 0.2V/20μsec. div.
TP8008 PLAY 0.2V/20μsec. div.
TP8007 REC/PLAY 0.5V/20μsec. div.
TP8006 REC/PLAY 0.5V/20μsec. div.
TP8005 REC 2V/5msec. div.
TP8005 PLAY 2V/5msec. div.
TP8004 REC/PLAY 5V/0.1msec. div.
Q8001 2SC2206
FM AMP
IC8001 AN6360
ACC
DET
BG
BM
6dB BURST UP/DOWN
PB AMP
3dB UP
FL8002 VLF0105
LPF
FL8003 VLF0104
BPF
TP8008
TP8007
TP8004
TP8006
IC8002 AN6361N
AMP
APC PCOM
KILLER PCOM
SW
KILLER AMP
X-VCO
BM
TP8002
FL8001 VLF0101
HPF
CNC
DL8001 VLD0013
1H DELAY LINE
REC.C
TP8005
TO J8-3
3.58MHz AMP
Q8003 2SD636
IC8004 AN6342N
COUNT DOWN
1/8
EF
X-TAL OSC
3.58OSC
TP8003
Q8002 2SC2377
PULSE AMP
TP8001 REC/PLAY 2V/20μsec. div.
TP8009
IC8003 AN6362
AFC
P-COM
VCO
1/4
90° ROTA
GATE
FST
ROTA CONT
MM
1/40DIV
DOC MH
GATE
SYNCSEP
DOC R/P
TP8001
TO JA-4
P3005
1 RF OUT
2 GND
3 GND
4 12V
5 V. SINC IN
6
7 VIDEO OUT
8 GND
P3006
1 PIEZO
2 12V
3 DOC OUT
4 RF OUT
5 GND
6 60Hz REF OUT
7 NON SW 12V
8 3.58MHz OUT
9 PIEZO PG 30Hz
10
P3004
1 PIEZO
2 SLP
3 SLP
4 EE/VV
5 EE/VV
6 REC12V
7 EXCEPT REC 12V
8
TO J8-4
TO JA-1
P3002
1 GND
2 12V
3
P3003
1
2 VIDEO OUT
3 GND
P3007
1 VIDEO OUT
2 GND
TP8002 REC/PLAY 0.5V/50μsec. div.
TP8003 REC/PLAY 0.5V/0.1msec. div.
11
12
13
14
15
16
17
18
19
20
21
22



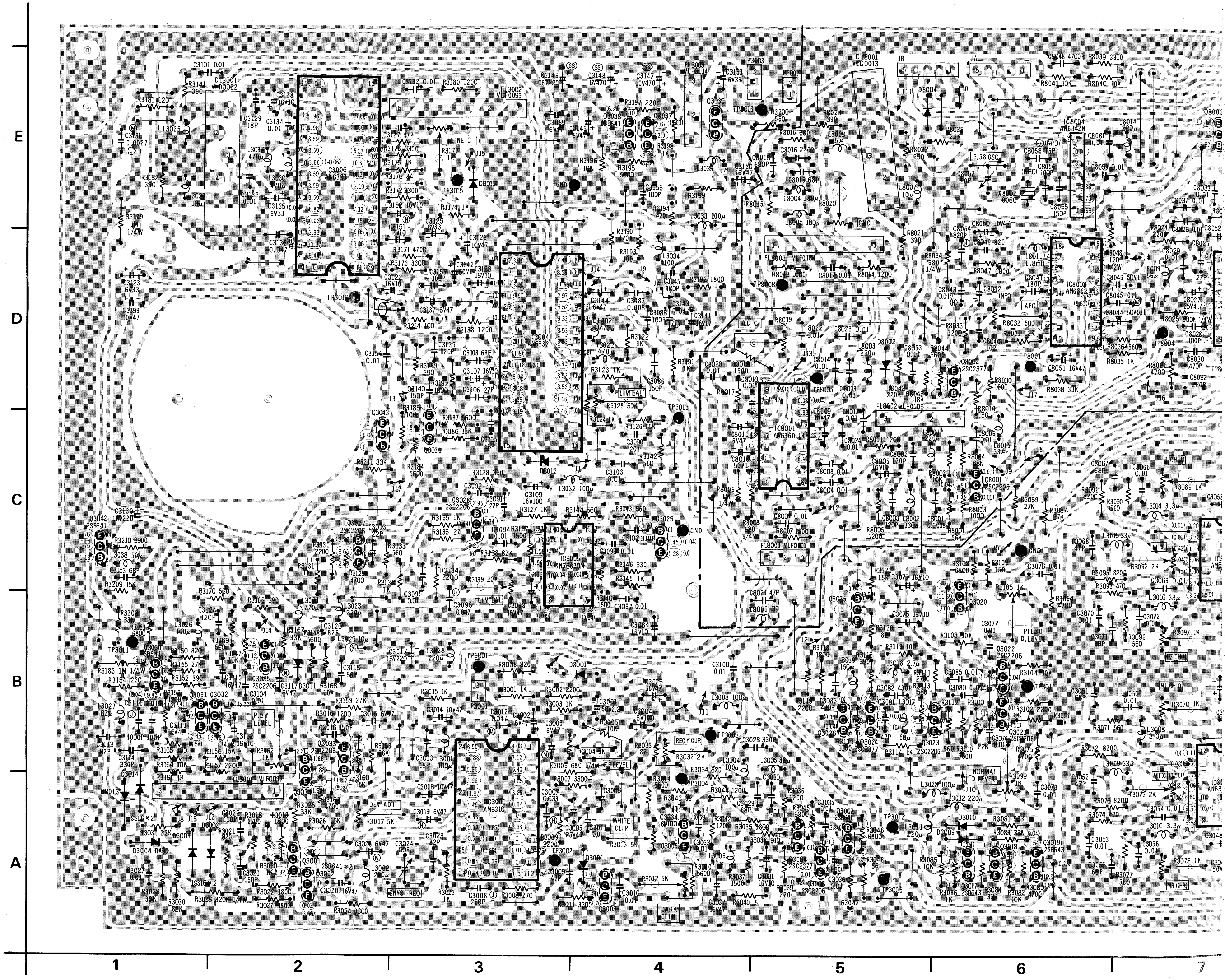
Q3013 2SD636
Q3012 2SD636
PIEZO HEAD SELECT
Q3019 2SB643
Q3018 2SD636
PIEZO HEAD DET.
Q3017 2SB643
Q3015 2SD638
RECORD SELECT
Q3040 2SD636
Q3041 2SD636
PIEZO HEAD SELECT
TP3006
TP3012
P002
12 PIEZO (P1)
11 PIEZO (P1)
10 GND
9 GND
8 PIEZO (P2)
7 PIEZO (P2)
6 NORMAL (R)
5 NORMAL (R)
4 GND
3 GND
2 NORMAL (L)
1 NORMAL (L)
IC3003 AN6320N
IC3002 AN6320N
AMP
FILTER AMP
HEAD SW
MIX
P1 PEAK
P2 PEAK
P1 CHQ
P2 CHQ
NR PEAK
NR DH-Q
Q3021 2SC2206
Q3022 2SC2206
PIEZO HEAD SELECT
Q3020 2SD636
BUFFER
NORMAL D LEVEL
PIEZO D LEVEL
TP3011
Q3023 2SC2200
FM AMP
TP3011 PLAY 50mV/5msec. div.
Q3039 2SD636
VIDEO OUT PUT
FL3003 VLF0114
TP3016
Q3037 2SD636
AMP
Q3038 2SB641
AMP
TP8009 REC/PLAY 5V/10msec. div.
TP8008 REC 0.2V/20μsec. div.
TP8008 PLAY 0.2V/20μsec. div.
TP8007 REC/PLAY 0.5V/20μsec. div.
TP8006 REC/PLAY 0.5V/20μsec. div.
TP8005 REC 2V/5msec. div.
TP8005 PLAY 2V/5msec. div.
TP8004 REC/PLAY 5V/0.1msec. div.
Q8001 2SC2206
FM AMP
IC8001 AN6360
ACC
BM
6dB BURST UP/DOWN
PB AMP
DET
BG
3dB UP
FL8002 VLF0105
LPF
FL8003 VLF0104
BPF
IC8002 AN6361N
AMP
APC PCOM
KILLER PCOM
SW
KILLER AMP
X-VCO
BM
P3005
1 RF OUT
2 GND
3 GND
4 12V
5 V. SINC IN
7 VIDEO OUT
8 GND
P3006
1 PIEZO
2 12V
3 DOC OUT
4 RF OUT
5 GND
6 60Hz REF OUT
7 NON SW 12V
8 3.58MHz OUT
9 PIEZO PG 30Hz
TO J8-3
DL8001 VLD0013
1H DELAY LINE
CNC
REC.C
FL8001 VLF0101
HPF
IC8004 AN6342N
COUNT DOWN
1/8
EF
X-TAL OSC
3.58OSC
Q8003 2SD636
3.58MHz AMP
TP8003
Q8002 2SC2377
PULSE AMP
TP8001 REC/PLAY 2V/20μsec. div.
IC8003 AN6362
P-COM
VCO
1/4
90° ROTA
GATE
FST
ROTA CONT
MM
1/40DIV
DOC MH
GATE
SYNC SEP
DOC R/P
AFC
TP8001
TP8002
TP8009
P3004
1 PIEZO
2 SLP
3 SLP
4 EE/VV
5 EE/VV
6 REC12V
7 EXCEPT REC 12V
TO J8-4
TO J8-1
P3002
1 GND
2 12V
P3003
2 VIDEO OUT
3 GND
P3007
1 VIDEO OUT
2 GND
TO JA-4
TP8002 REC/PLAY 0.5V/50μsec. div.
TP8003 REC/PLAY 0.5V/0.1msec. div.
11
12
13
14
15
16
17
18
19
20
21
22

LUMINANCE/CHROMINANCE C.B.A. (VEP03136A)

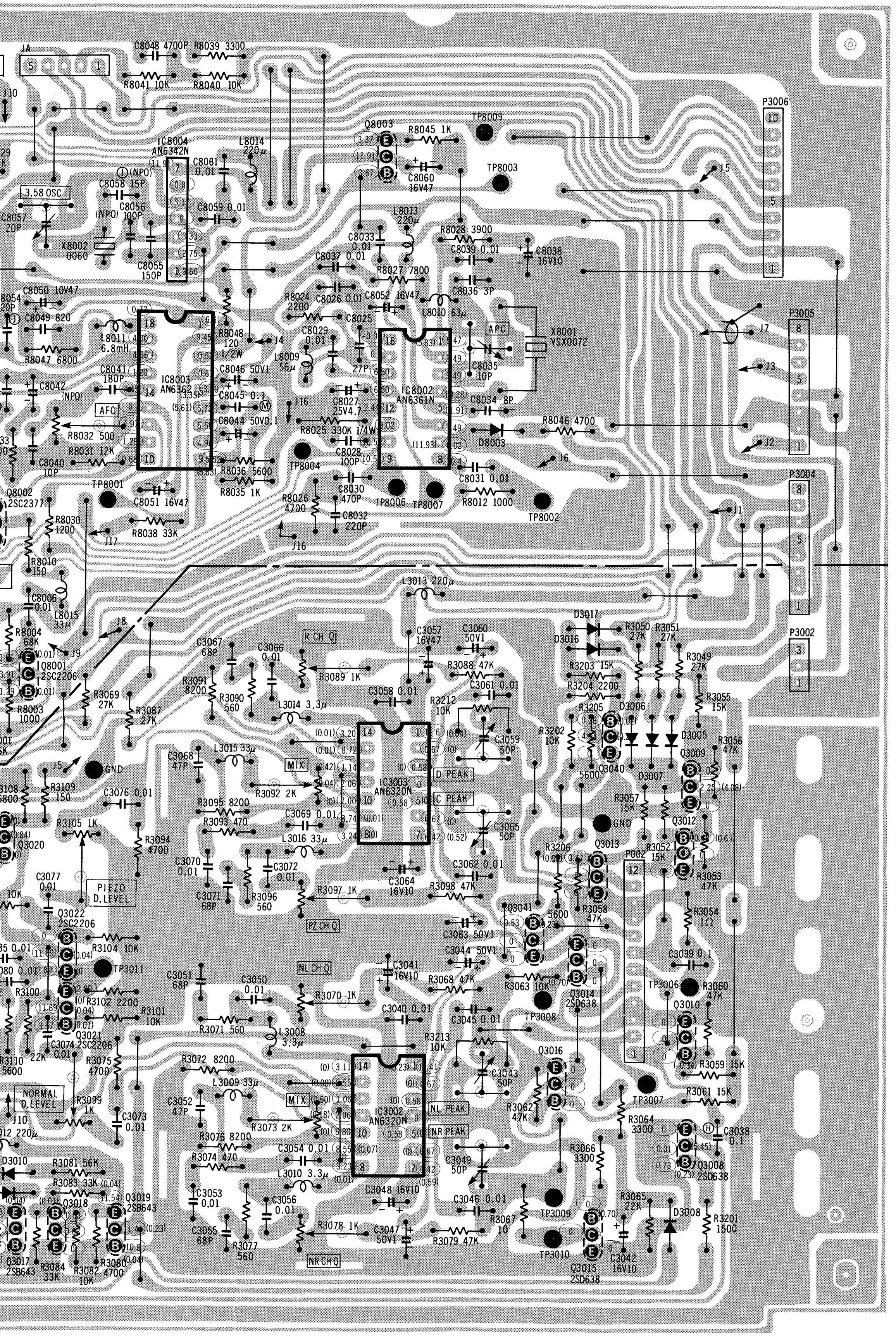
P3004 (Luminance & Chrominance C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Piezo (H)	P4005-7 Audio & V-Dancing COMP (I) C.B.A
2	SLP (H)	P4005-1 Audio & V-Dancing COMP (I) C.B.A
3	SLP (H)	P6012-2 System Control C.B.A
4	EE/VV (L)	P4005-4 Audio & V-Dancing COMP (I) C.B.A
5	EE/VV (L)	P6016-1 System Control C.B.A
6	REC 12V	P4005-3 Audio & V-Dancing COMP (I) C.B.A
7	Except REC 12V	P4005-5 Audio & V-Dancing COMP (I) C.B.A
8	—	— —

P3005 (Luminance & Chrominance C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	RF Out	P3501-1 V-Dancing COMP (I) Section
2	GND	— —
3	GND	P3501-4 V-Dancing COMP (I) Section
4	12V	P3501-10 V-Dancing COMP (I) Section
5	V Sync In	P3501-3 V-Dancing COMP (I) Section
6	—	— —
7	P.B Video Out	— —
8	GND	— —

P3006 (Luminance & Chrominance C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Piezo (H)	P2302-5 Search & Sub System Control (I) C.B.A
2	12V	P2301-1 Search & Sub System Control (I) C.B.A
3	D.O.C	P2302-8 Search & Sub System Control (I) C.B.A
4	RF Out	P2901-2 Search & Sub System Control (I) C.B.A
5	GND	— —
6	REF 60Hz	P6006-3 System Control C.B.A
7	Non SW 12V	P1506-1 Power SW C.B.A
8	3.58MHz Out	P2301-2 Search & Sub System Control (I) C.B.A
9	Piezo PG 30Hz	P2302-3 P.H SW
10	—	— —



E
D
C
B
A
1
2
3
4
5
6
7
IC3006 AN6321
IC3004 AN6332
IC3005 SN76670N
IC3001 AN6310
IC8001 AN6360
IC8003 AN6362
IC8004 AN6342N
DL3001 VLD0022
DL8001 VLD0013
FL3001 VLF0097
FL3002 VLF0099
FL3003 VLF0114
FL8001 VLF0101
FL8002 VLF0105
FL8003 VLF0104
LINE C
LIM BAL
REC C
AFC
CNC
3.58 OSC
P.B LEVEL
DEV ADJ
SYNC FREQ
EE LEVEL
REC Y CUR
WHITE CLIP
DARK CLIP
PIEZO D.LEVEL
NORMAL D.LEVEL
R CH Q
PZ CH Q
NL CH Q
NR CH Q
MIX
GND
TP3001
TP3002
TP3003
TP3004
TP3005
TP3011
TP3012
TP3013
TP3015
TP3016
TP3018
TP8001
TP8004
TP8005
TP8008
J8
JA
JB
P3001
P3003
P3007



NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P3001

	1	GND
P1552 — 2	2	VIDEO

P3002

P1006 — 3	1	GND
P1006 — 8	2	12V
———	3	———

P3003

———	1	———
P1 — 3	2	VIDEO OUT
	3	GND

P3004

P4005 — 7	1	PIEZO (H)
P4005 — 1	2	SLP (H)
P6012 — 2	3	SLP (H)
P4005 — 4	4	EE / VV (L)
P6016 — 1	5	EE / VV (L)
P4005 — 3	6	REC 12V
P4005 — 5	7	EXCEPT REC 12V
	8	———

P3005

P3501 — 1	1	RF OUT
	2	GND
P3501 — 4	3	GND
P3501 — 10	4	12V
P3501 — 3	5	V SYNC IN
	6	———
P2302 — 9	7	P. B VIDEO OUT
	8	GND

P3006

P2302 — 5	1	PIEZO (H)
P2301 — 1	2	12V
P2302 — 8	3	D. O. C
P2901 — 2	4	RF OUT
	5	GND
P6006 — 3	6	REF 60Hz
P1506 — 1	7	NON SW 12V
P2301 — 2	8	3.58MHz OUT
P2302 — 3	9	PIEZO PG 30Hz
	10	———

P3007

P1504 — 1	1	VIDEO OUT
P1504 — 2	2	GND

P002

NORMAL (L)	1
NORMAL (L)	2
GND	3
GND	4
NORMAL (R)	5
NORMAL (R)	6
PIEZO (P2)	7
PIEZO (P2)	8
GND	9
GND	10
PIEZO (P1)	11
PIEZO (P1)	12

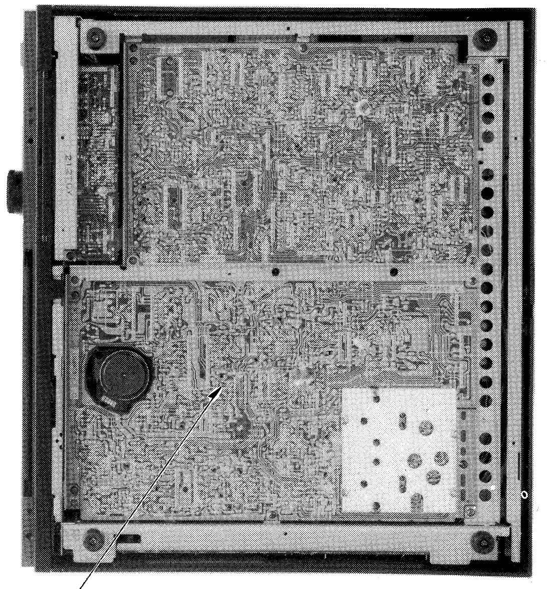
JB

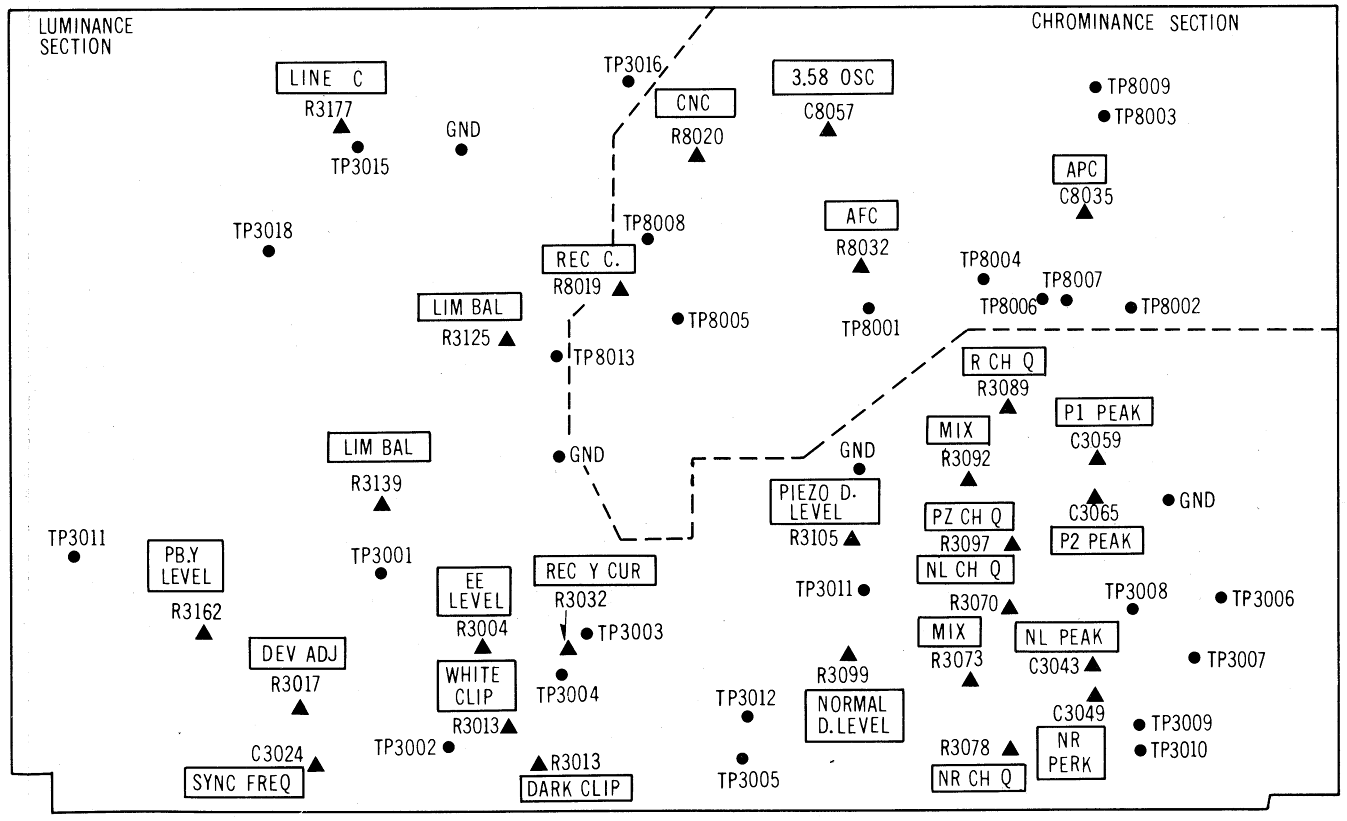
PIEZO (L)	1
PG 30Hz	2
PIEZO PG 30Hz	3
SLP (H)	4
REC PLAY 12V	5

JA

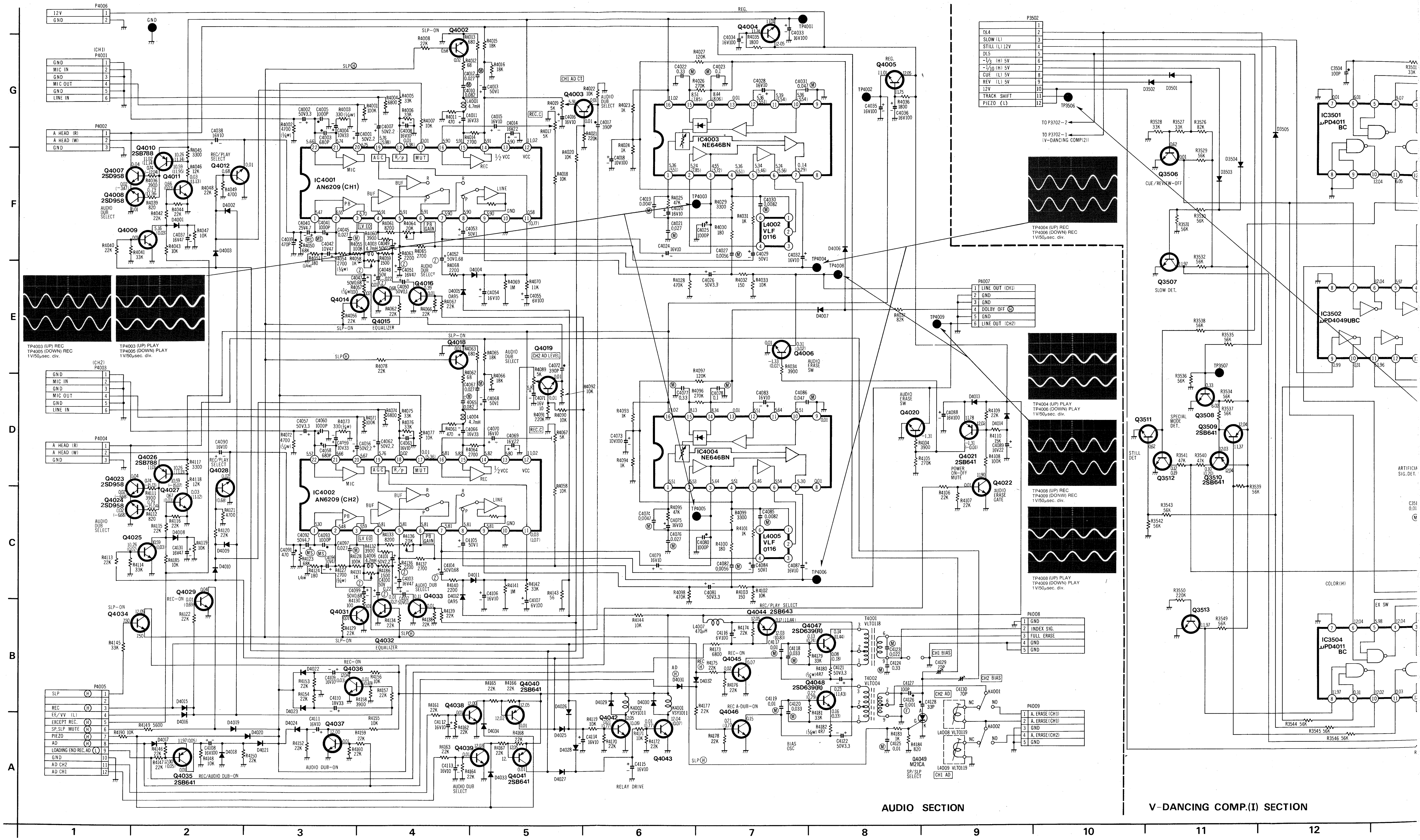
REC 12V	1
VSS	2
60Hz REF	3
EXCEPT REC 12V	4
———	5

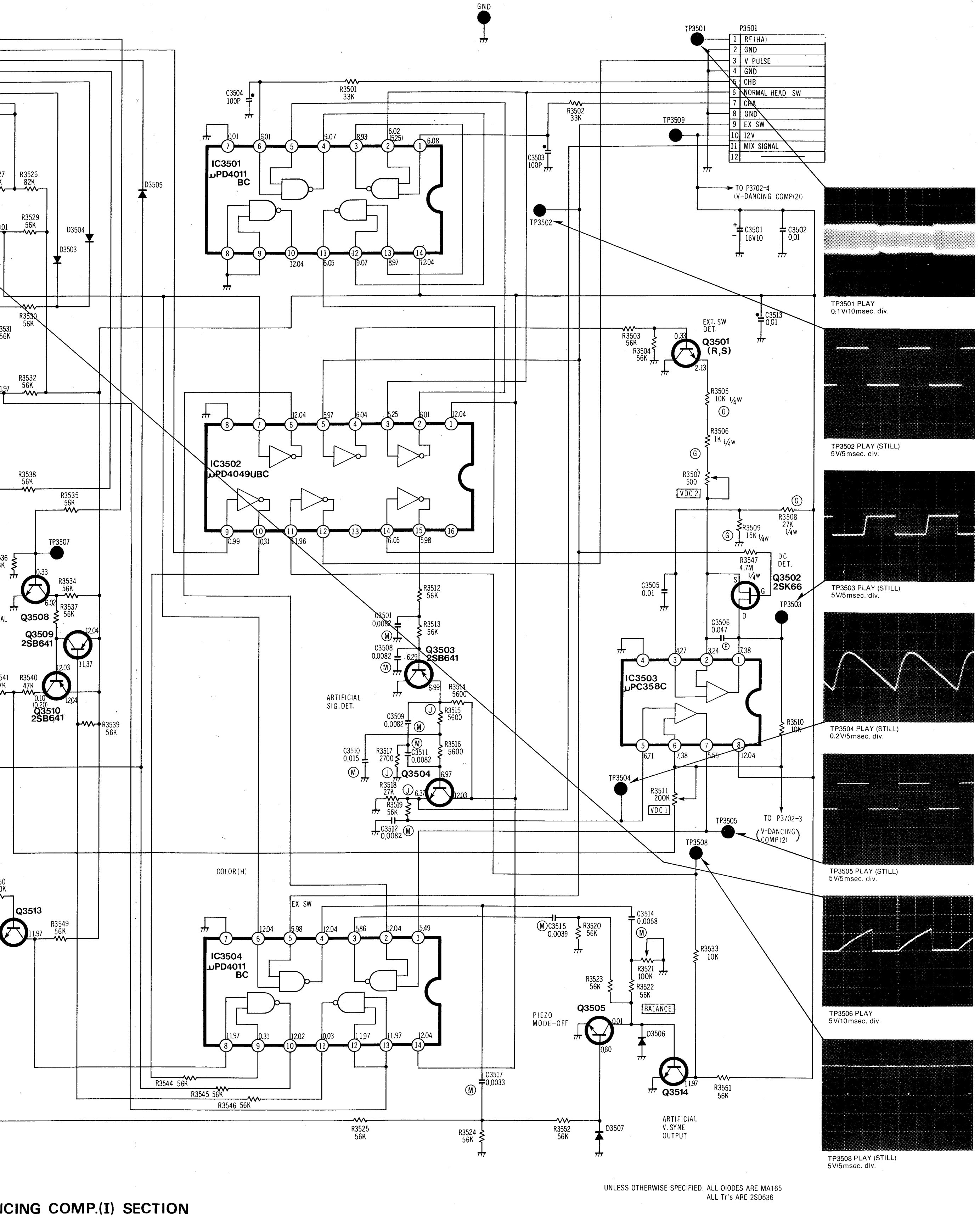
Luminance & Chrominance C.B.A.			
Luminance Section		Q3031	B-1
Q3001	A-2	Q3032	B-2
Q3002	A-2	Q3033	B-2
Q3003	A-4	Q3034	B-2
Q3004	A-5	Q3035	B-2
Q3005	A-4	Q3036	C-3
Q3006	A-5	Q3037	E-4
Q3007	A-5	Q3038	E-4
Q3008	A-8	Q3039	E-4
Q3009	C-8	Q3040	C-8
Q3010	B-8	Q3041	B-8
Q3012	B-8	Q3042	C-1
Q3013	B-8	Q3043	C-2
Q3014	B-8		
Q3015	A-8	IC3001	A-3
Q3016	B-8	IC3002	A-7
Q3017	A-6	IC3003	C-7
Q3018	A-6	IC3004	D-3
Q3019	A-6	IC3005	C-3
Q3020	C-6	IC3006	E-2
Q3021	B-6		
Q3022	B-6	Chrominance Section	
Q3023	B-6	Q8002	D-6
Q3024	B-5	Q8003	E-7
Q3025	B-5	Q8004	C-6
Q3026	B-5		
Q3027	C-2	IC8001	C-5
Q3028	C-3	IC8002	D-7
Q3029	C-4	IC8003	D-6
Q3030	B-1	IC8004	E-6


Luminance & Chrominance C.B.A.


LUMINANCE SECTION
CHROMINANCE SECTION
LINE C
R3177
TP3015
GND
TP3016
CNC
R8020
3.58 OSC
C8057
TP8009
TP8003
APC
C8035
TP3018
TP8008
AFC
R8032
REC C.
R8019
TP8004
TP8007
TP8006
TP8002
LIM BAL
R3125
TP8005
TP8001
TP8013
R CH Q
R3089
MIX
R3092
P1 PEAK
C3059
LIM BAL
R3139
GND
GND
PIEZO D. LEVEL
R3105
PZ CH Q
R3097
C3065
P2 PEAK
GND
TP3011
PB.Y LEVEL
R3162
TP3001
EE LEVEL
R3004
REC Y CUR
R3032
TP3003
TP3011
NL CH Q
R3070
TP3008
TP3006
DEV ADJ
R3017
WHITE CLIP
R3013
TP3004
MIX
R3073
NL PEAK
C3043
TP3007
R3099
NORMAL D.LEVEL
TP3012
C3049
TP3009
TP3010
C3024
SYNC FREQ
TP3002
R3013
DARK CLIP
TP3005
R3078
NR CH Q
NR PERK

AUDIO & V-DANCING COMP. (1) SCHEMATIC DIAGRAM


P4006
12V 1
GND 2
(CH1) P4001
GND 1
MIC IN 2
GND 3
MIC OUT 4
GND 5
LINE IN 6
P4002
A HEAD (R) 1
A HEAD (W) 2
GND 3
(CH2) P4003
GND 1
MIC IN 2
GND 3
MIC OUT 4
GND 5
LINE IN 6
P4004
A HEAD (R) 1
A HEAD (W) 2
GND 3
P4005
SLP (H) 1
2
REC (H) 3
EE/VV (L) 4
EXCEPT REC. (H) 5
SP,SLP MUTE (H) 6
PIEZO (H) 7
AD (H) 8
LOADING END REC,AD (L) 9
GND 10
AD CH2 11
AD CH1 12
IC4001 AN6209 (CH1)
IC4002 AN6209 (CH2)
IC4003 NE646BN
IC4004 NE646BN
L4002 VLF 0116
L4005 VLF 0116
Q4002
Q4003
Q4004
Q4005
Q4006
Q4007 2SD958
Q4008 2SD958
Q4009
Q4010 2SB788
Q4011
Q4012
Q4014
Q4015 EQUALIZER
Q4016
Q4018
Q4019
Q4020
Q4021 2SB641
Q4022
Q4023 2SD958
Q4024 2SD958
Q4025
Q4026 2SB788
Q4027
Q4028
Q4029
Q4031
Q4032 EQUALIZER
Q4033
Q4034
Q4035 2SB641
Q4036
Q4037
Q4038
Q4039
Q4040 2SB641
Q4041 2SB641
Q4042
Q4043
Q4044 2SB643
Q4045
Q4046
Q4047 2SD639(R)
Q4048 2SD639(R)
CH1 AD CT
CH2 AD LEVEL
AUDIO DUB SELECT
REC/PLAY SELECT
AUDIO ERASE SW
POWER ON-OFF MUTE
AUDIO ERASE GATE
REC/AUDIO DUB-ON
AUDIO DUB-ON
REC A-DUB-ON
BIAS OSC
RELAY DRIVE
SP/SLP SELECT
CH1 BIAS
CH2 BIAS
CH1 AD
CH2 AD
T4001 VLT0118
T4002 VLT004
K4001 VSY1011
K4002 VSY1011
L4008 VLT0119
L4009 VLT0119
Q4049 M21CA
P4007
LINE OUT (CH1) 1
GND 2
GND 3
DOLBY OFF (H) 4
GND 5
LINE OUT (CH2) 6
P4008
GND 1
INDEX SIG. 2
FULL ERASE 3
GND 4
GND 5
P4009
A. ERASE(CH1) 1
A. ERASE(CH1) 2
GND 3
A. ERASE(CH2) 4
GND 5
P3502
1
DL4 2
SLOW (L) 3
STILL (L) 12V 4
DL5 5
-1/3 (H) 5V 6
-1/10 (H) 5V 7
CUE (L) 5V 8
REV (L) 5V 9
12V 10
TRACK SHIFT 11
PIEZO (L) 12
TP3506
TO P3702-2
TO P3702-1 (V-DANCING COMP(2))
TP4003 (UP) REC
TP4005 (DOWN) REC
1V/50μsec. div.
TP4003 (UP) PLAY
TP4005 (DOWN) PLAY
1V/50μsec. div.
TP4004 (UP) REC
TP4006 (DOWN) REC
1V/50μsec. div.
TP4004 (UP) PLAY
TP4006 (DOWN) PLAY
1V/50μsec. div.
TP4008 (UP) REC
TP4009 (DOWN) REC
1V/50μsec. div.
TP4008 (UP) PLAY
TP4009 (DOWN) PLAY
1V/50μsec. div.
IC3501 μPD4011 BC
IC3502 μPD4049UBC
IC3504 μPD4011 BC
Q3506 CUE/REVIEW-OFF
Q3507 SLOW DET.
Q3508
Q3509 2SB641
Q3510 2SB641
Q3511 STILL DET
Q3512
Q3513
SPECIAL MODE DET.
ARTIFICIAL SIG. DET.
COLOR(H)
EX SW
AUDIO SECTION
V-DANCING COMP.(I) SECTION
G
F
E
D
C
B
A
1
2
3
4
5
6
7
8
9
10
11
12


GND
TP3501
P3501
1 RF (HA)
2 GND
3 V PULSE
4 GND
5 CHB
6 NORMAL HEAD SW
7 CHA
8 GND
9 EX SW
10 12V
11 MIX SIGNAL
12
TP3509
TO P3702-4 (V-DANCING COMP(2))
IC3501 μPD4011 BC
IC3502 μPD4049UBC
IC3503 μPC358C
IC3504 μPD4011 BC
Q3501 (R,S)
Q3502 2SK66
Q3503 2SB641
Q3504
Q3505
Q3508
Q3509 2SB641
Q3510 2SB641
Q3513
Q3514
TP3502
TP3503
TP3504
TP3505
TP3507
TP3508
EXT. SW DET.
DC DET.
ARTIFICIAL SIG. DET.
COLOR (H)
EX SW
PIEZO MODE-OFF
BALANCE
VDC 1
VDC 2
ARTIFICIAL V. SYNC OUTPUT
TO P3702-3 (V-DANCING COMP(2))
TP3501 PLAY 0.1V/10msec. div.
TP3502 PLAY (STILL) 5V/5msec. div.
TP3503 PLAY (STILL) 5V/5msec. div.
TP3504 PLAY (STILL) 0.2V/5msec. div.
TP3505 PLAY (STILL) 5V/5msec. div.
TP3506 PLAY 5V/10msec. div.
TP3508 PLAY (STILL) 5V/5msec. div.
11
12
13
14
15

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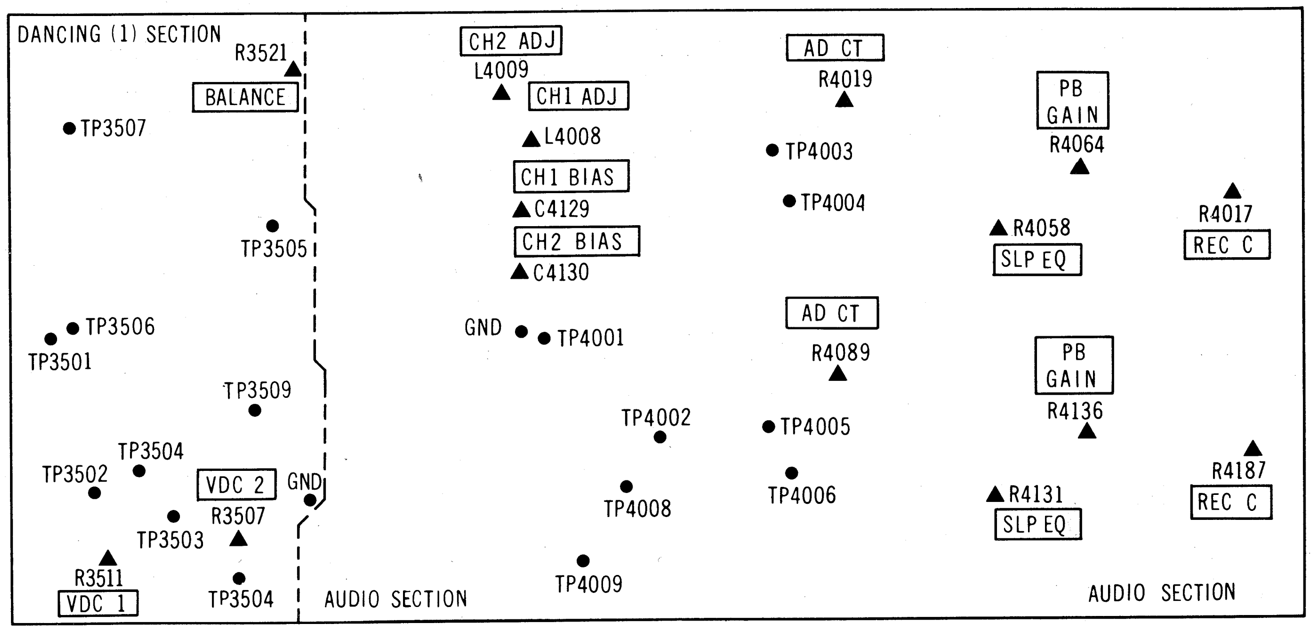
ALL Tr's ARE 2SD636

CING COMP.(I) SECTION


DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
AUDIO SECTION
CH2 ADJ
L4009
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
GND
TP4001
TP4002
TP4008
TP4009
AD CT
R4019
TP4003
TP4004
AD CT
R4089
TP4005
TP4006
PB GAIN
R4064
R4058
SLP EQ
R4017
REC C
PB GAIN
R4136
R4131
SLP EQ
R4187
REC C
AUDIO SECTION

P4003 (Audio & V-Dancing COMP (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P1550-9 Input Jack C.B.A
2	MIC In	P1550-10 Input Jack C.B.A
3	GND	P1550-9 Input Jack C.B.A
4	MIC Out	P1550-11 Input Jack C.B.A
5	GND	P1550-9 Input Jack C.B.A
6	Line In	P1550-12 Input Jack C.B.A

P4005 (Audio & V-Dancing COMP (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	SLP (H)	P3004-12 Luminance & Chrominance C.B.A
2	—	— —
3	REC (H)	P3004-6 Luminance & Chrominance C.B.A
4	EE/VV (L)	P3004-4 Luminance & Chrominance C.B.A
5	Except REC (H)	P3004-7 Luminance & Chrominance C.B.A
6	Mute (H)	P6707-5 Remaining Tape Time Display Section
7	Piezo (H)	P3004-1 Luminance & Chrominance C.B.A
8	A.D (H)	P6016-6 System Control C.B.A
9	Loading End REC AD (L)	P6016-4 System Control C.B.A
10	—	— —
11	AD CH2	P1550-8 Input Jack C.B.A
12	AD CH1	P1550-2 Input Jack C.B.A

P4006 (Audio & V-Dancing COMP (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	12V	P1006-9 Power Supply C.B.A
2	GND	P1553-5 Input Jack C.B.A

P4007 (Audio & V-Dancing COMP (I) C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION
1	Line Out (CH1)	P4301-9 Audio Output Select C.B.A
2	GND	— —
3	GND	P2804-1 Piezo Drive C.B.A
4	N.R ON (L)	P4301-3 Audio Output Select C.B.A
5	GND	— —
6	Line Out (CH2)	P4301-6 Audio Output Select C.B.A

P4008 (Audio & V-Dancing COMP (I) C.B.A)

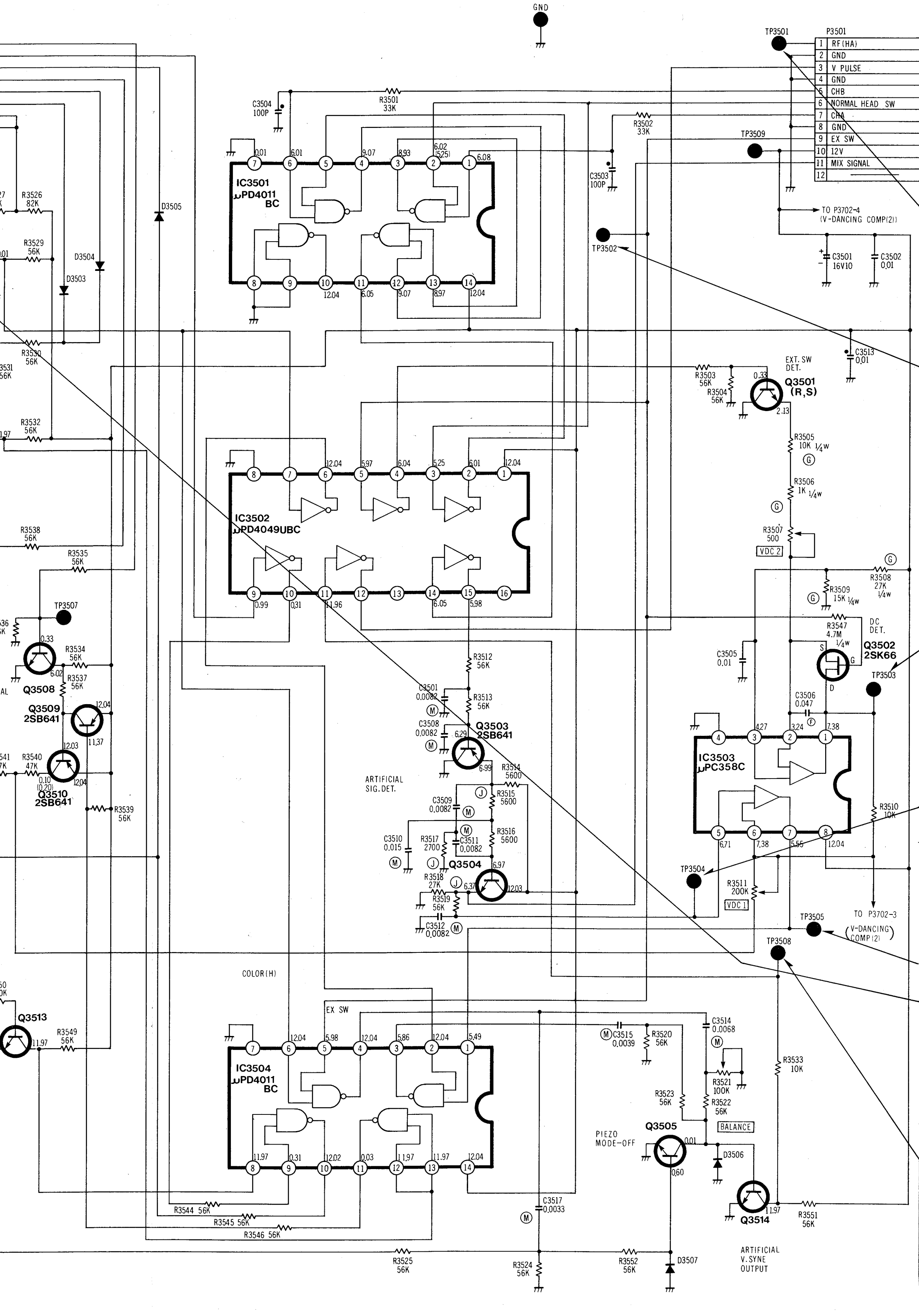
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	— —
2	Index Signal	P6651-2 Servo C.B.A
3	Full Erase	P1513-1 Cylinder Connection C.B.A
4	GND	— —
5	GND	— —

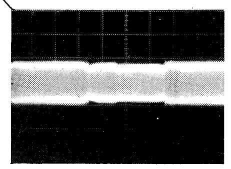
P3501 (V-Dancing COMP (I) Section C.B.A)

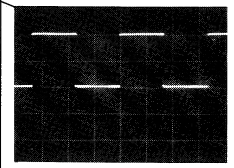
PIN NO.	SIGNAL NAME	DESTINATION
1	RF In	P3005-1 Luminance & Chrominance C.B.A
2	GND	— —
3	V. Pulse	P3005-5 Luminance & Chrominance C.B.A
4	GND	P3005-3 Luminance & Chrominance C.B.A
5	CH B	P2509-2 Pattern Generator C.B.A
6	Nor Head SW	P2009-2 Servo C.B.A
7	CH A	P2509-1 Pattern Generator C.B.A
8	GND	P2509-3 Pattern Generator C.B.A
9	EX. Head SW	P2004-7 Servo C.B.A
10	12V	P3005-4 Luminance & Chrominance C.B.A
11	MIX Signal	P2302-12 Search & Sub System Control (I) C.B.A
12	—	— —

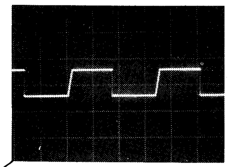
P3502 (V-Dancing COMP (I) Section C.B.A)

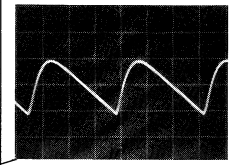
PIN NO.	SIGNAL NAME	DESTINATION
1	V.D Select	P6402-7 Operation (II) C.B.A
2	DL4	P2509-4 Pattern Generator C.B.A
3	Slow (L)	P2003-4 Servo C.B.A
4	Still (L)	P6015-2 System Control C.B.A
5	DL5	P2503-3 Pattern Generator C.B.A
6	−1/3 (H)	P6013-5 System Control C.B.A
7	−10 (H)	P6013-3 System Control C.B.A
8	CUE (L)	P6014-6 System Control C.B.A
9	Review (L)	P2003-1 Servo C.B.A
10	Piezo (L)	P2005-10 Servo C.B.A
11	Tracking Shift	P2003-5 Servo C.B.A
12	Piezo (L)	P6701-11 Remaining Tape Time Display Section

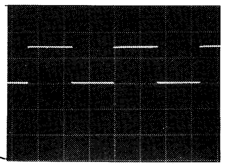

GND
TP3501
P3501
1 RF (HA)
2 GND
3 V PULSE
4 GND
5 CHB
6 NORMAL HEAD SW
7 CHA
8 GND
9 EX SW
10 12V
11 MIX SIGNAL
12
TP3509
TP3502
TO P3702-4 (V-DANCING COMP(2))
IC3501 μPD4011BC
IC3502 μPD4049UBC
IC3503 μPC358C
IC3504 μPD4011BC
Q3501 (R,S)
EXT. SW DET.
Q3502 2SK66
DC DET.
Q3503 2SB641
Q3504
Q3505
Q3508
Q3509 2SB641
Q3510 2SB641
Q3513
Q3514
ARTIFICIAL SIG. DET.
COLOR(H)
EX SW
PIEZO MODE-OFF
BALANCE
VDC 2
VDC 1
TP3503
TP3504
TP3505
TP3507
TP3508
TO P3702-3 (V-DANCING COMP(2))
ARTIFICIAL V. SYNC OUTPUT
D3505
D3504
D3503
D3506
D3507

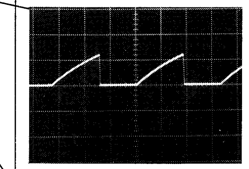

TP3501 PLAY
0.1V/10msec. div.

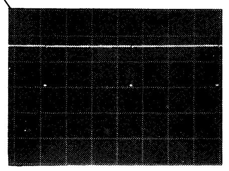

TP3502 PLAY (STILL)
5V/5msec. div.


TP3503 PLAY (STILL)
5V/5msec. div.


TP3504 PLAY (STILL)
0.2V/5msec. div.


TP3505 PLAY (STILL)
5V/5msec. div.


TP3506 PLAY
5V/10msec. div.


TP3508 PLAY (STILL)
5V/5msec. div.

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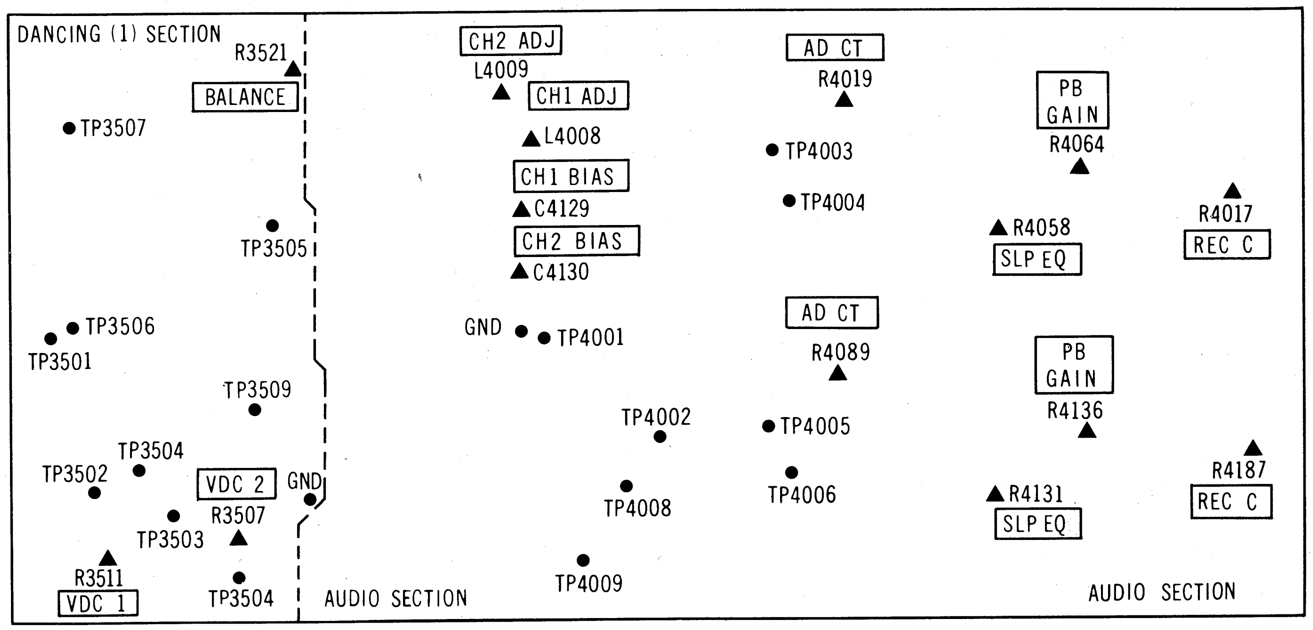
CING COMP.(I) SECTION

11 12 13 14 15


DANCING (1) SECTION
R3521
BALANCE
TP3507
TP3505
TP3506
TP3501
TP3509
TP3504
TP3502
VDC 2
GND
R3507
TP3503
R3511
VDC 1
TP3504
AUDIO SECTION
CH2 ADJ
L4009
CH1 ADJ
L4008
CH1 BIAS
C4129
CH2 BIAS
C4130
GND
TP4001
TP4002
TP4008
TP4009
AD CT
R4019
TP4003
TP4004
AD CT
R4089
TP4005
TP4006
PB GAIN
R4064
R4058
SLP EQ
R4017
REC C
PB GAIN
R4136
R4131
SLP EQ
R4187
REC C
AUDIO SECTION

P4003 (Audio & V-Dancing COMP (I) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P1550-9 Input Jack C.B.A
2	MIC In	P1550-10 Input Jack C.B.A
3	GND	P1550-9 Input Jack C.B.A
4	MIC Out	P1550-11 Input Jack C.B.A
5	GND	P1550-9 Input Jack C.B.A
6	Line In	P1550-12 Input Jack C.B.A

P4005 (Audio & V-Dancing COMP (I) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	SLP (H)	P3004-12 Luminance & Chrominance C.B.A
2	—	— —
3	REC (H)	P3004-6 Luminance & Chrominance C.B.A
4	EE/VV (L)	P3004-4 Luminance & Chrominance C.B.A
5	Except REC (H)	P3004-7 Luminance & Chrominance C.B.A
6	Mute (H)	P6707-5 Remaining Tape Time Display Section
7	Piezo (H)	P3004-1 Luminance & Chrominance C.B.A
8	A.D (H)	P6016-6 System Control C.B.A
9	Loading End REC AD (L)	P6016-4 System Control C.B.A
10	—	— —
11	AD CH2	P1550-8 Input Jack C.B.A
12	AD CH1	P1550-2 Input Jack C.B.A

P4006 (Audio & V-Dancing COMP (I) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	12V	P1006-9 Power Supply C.B.A
2	GND	P1553-5 Input Jack C.B.A

P4007 (Audio & V-Dancing COMP (I) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	Line Out (CH1)	P4301-9 Audio Output Select C.B.A
2	GND	— —
3	GND	P2804-1 Piezo Drive C.B.A
4	N.R ON (L)	P4301-3 Audio Output Select C.B.A
5	GND	— —
6	Line Out (CH2)	P4301-6 Audio Output Select C.B.A

P4008 (Audio & V-Dancing COMP (I) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	— —
2	Index Signal	P6651-2 Servo C.B.A
3	Full Erase	P1513-1 Cylinder Connection C.B.A
4	GND	— —
5	GND	— —

P3501 (V-Dancing COMP (I) Section C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	RF In	P3005-1 Luminance & Chrominance C.B.A
2	GND	— —
3	V. Pulse	P3005-5 Luminance & Chrominance C.B.A
4	GND	P3005-3 Luminance & Chrominance C.B.A
5	CH B	P2509-2 Pattern Generator C.B.A
6	Nor Head SW	P2009-2 Servo C.B.A
7	CH A	P2509-1 Pattern Generator C.B.A
8	GND	P2509-3 Pattern Generator C.B.A
9	EX. Head SW	P2004-7 Servo C.B.A
10	12V	P3005-4 Luminance & Chrominance C.B.A
11	MIX Signal	P2302-12 Search & Sub System Control (I) C.B.A
12	—	— —

P3502 (V-Dancing COMP (I) Section C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	V.D Select	P6402-7 Operation (II) C.B.A
2	DL4	P2509-4 Pattern Generator C.B.A
3	Slow (L)	P2003-4 Servo C.B.A
4	Still (L)	P6015-2 System Control C.B.A
5	DL5	P2503-3 Pattern Generator C.B.A
6	−1/3 (H)	P6013-5 System Control C.B.A
7	−10 (H)	P6013-3 System Control C.B.A
8	CUE (L)	P6014-6 System Control C.B.A
9	Review (L)	P2003-1 Servo C.B.A
10	Piezo (L)	P2005-10 Servo C.B.A
11	Tracking Shift	P2003-5 Servo C.B.A
12	Piezo (L)	P6701-11 Remaining Tape Time Display Section

AUDIO & V-DANCING COMP. (1) C.B.A (VEP0479A1)

P3501

P3005 − 1	1	RF IN
	2	GND
P3005 − 5	3	V. PULSE
P3005 − 3	4	GND
P2509 − 2	5	CH B
P2009 − 2	6	NORMAL HEAD SW
P2509 − 1	7	CH A
P2509 − 3	8	GND
P2004 − 7	9	EX. HEAD SW
P3005 − 4	10	12V
P2302 − 12	11	MIX SIGNAL
	12	———

P3502

V. D. SELECT		1	P6402 − 7
DL4		2	P2509 − 4
SLOW	Ⓛ	3	P2003 − 4
STILL	Ⓛ	4	P6015 − 2
DL5		5	P2503 − 3
−1/3	Ⓗ	6	P6013 − 5
−1/10	Ⓗ	7	P6013 − 3
CUE	Ⓛ	8	P6014 − 6
REVIEW	Ⓛ	9	P2003 − 1
PIEZO	Ⓛ	10	P2005 − 10
TRACKING SHIFT		11	P2003 − 5
PIEZO	Ⓛ	12	P6701 − 11

P4001

P1550 − 1	1	GND
P1550 − 3	2	MIC IN
P1550 − 1	3	GND
P1550 − 5	4	MIC OUT
P1550 − 1	5	GND
P1550 − 4	6	LINE IN

P4002

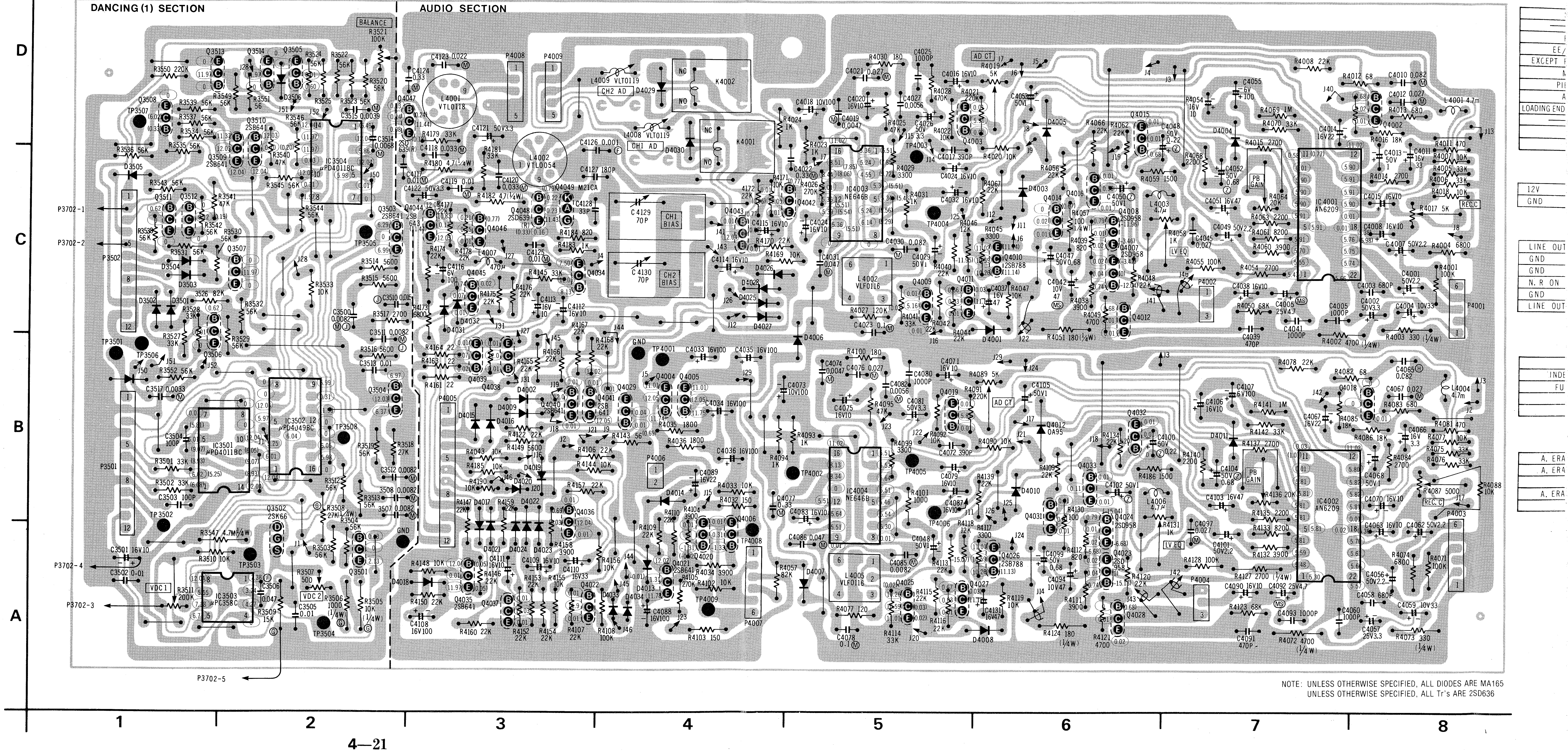
1	A HEAD (R) CH1
2	A HEAD (W) CH1
3	GND

P4003

P1550 − 9	1	GND
P1550 − 10	2	MIC IN
P1550 − 9	3	GND
P1550 − 11	4	MIC OUT
P1550 − 9	5	GND
P1550 − 12	6	LINE IN

P4004

A HEAD (R) CH2	1
A HEAD (W) CH2	2
GND	3


DANCING (1) SECTION
AUDIO SECTION
BALANCE
R3521 100K
IC3501 μPD4011BC
IC3502 μPD4049BC
IC3503 μPC358C
IC3504 μPD4011BC
IC4001 AN6209
IC4002 AN6209
IC4003 NE646B
IC4004 NE646B
L4001 VTL0118
L4002 VTL0054
K4001
K4002
CH1 AD
CH2 AD
CH1 BIAS
CH2 BIAS
PB GAIN
LV EQ
REC.C
AD CT
VDC 1
VDC 2
GND
P3501
P3502
P4001
P4002
P4003
P4004
P4005
P4006
P4007
P4008
P4009
P3702-1
P3702-2
P3702-3
P3702-4
P3702-5
D
C
B
A
1
2
3
4
5
6
7
8

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UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

79A1)

P4001

P1550 – 1	1	GND
P1550 – 3	2	MIC IN
P1550 – 1	3	GND
P1550 – 5	4	MIC OUT
P1550 – 1	5	GND
P1550 – 4	6	LINE IN

P4002

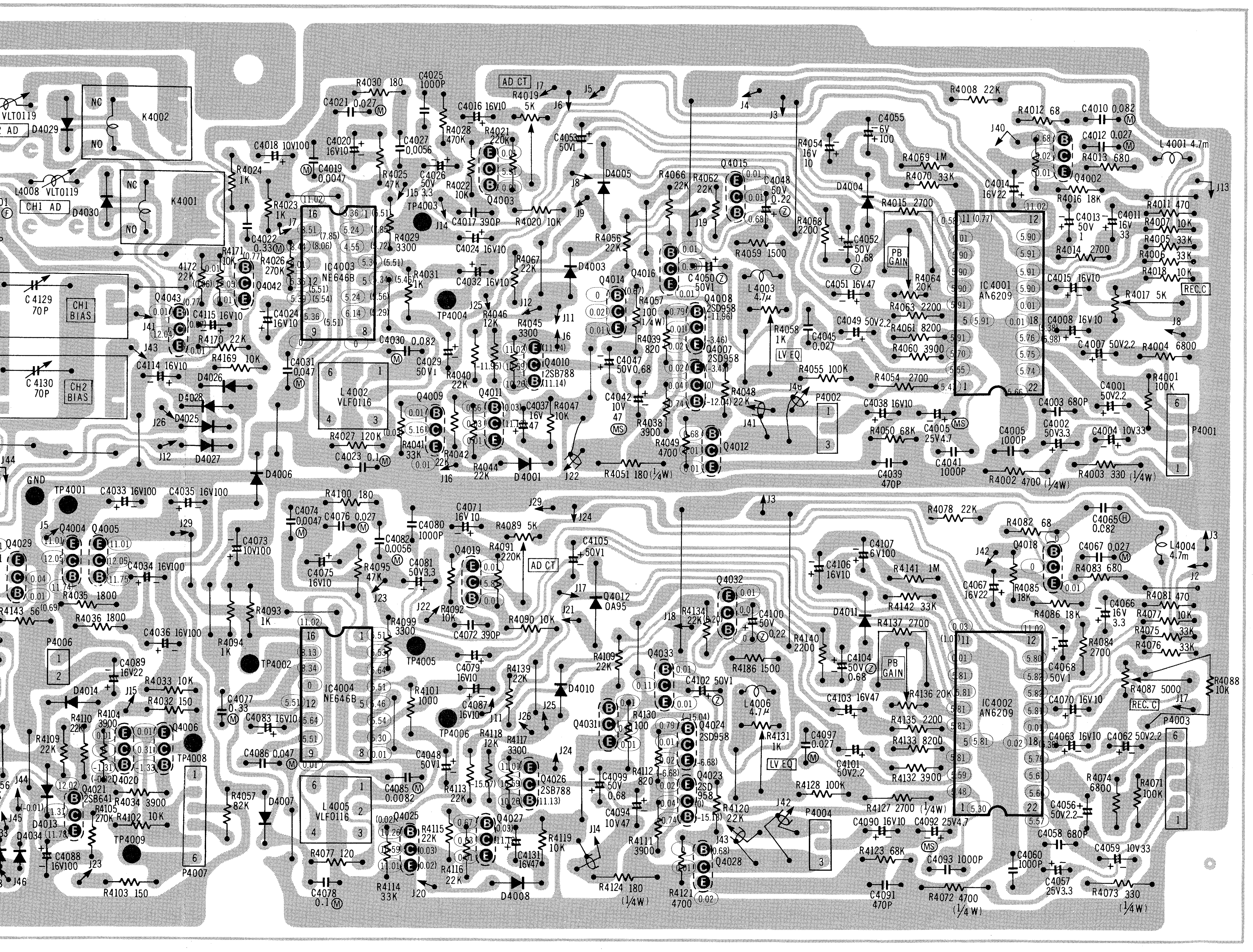
1	A HEAD (R) CH1
2	A HEAD (W) CH1
3	GND

P4003

P1550 – 9	1	GND
P1550 – 10	2	MIC IN
P1550 – 9	3	GND
P1550 – 11	4	MIC OUT
P1550 – 9	5	GND
P1550 – 12	6	LINE IN

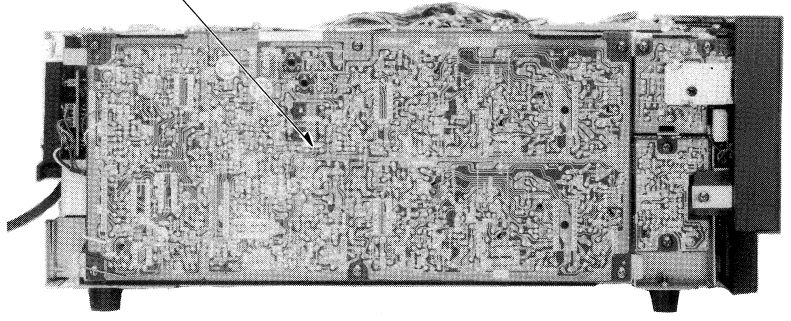
P4004

A HEAD (R) CH2	1
A HEAD (W) CH2	2
GND	3


K4002
K4001
D4029
D4030
L4008 VLT0119
CH1 AD
CH1 BIAS
CH2 BIAS
C4129 70P
C4130 70P
IC4003 NE646B
IC4004 NE646B
L4002 VLF0116
L4005 VLF0116
IC4001 AN6209
IC4002 AN6209
PB GAIN
LV EQ
REC.C
AD CT
TP4001
TP4002
TP4003
TP4004
TP4005
TP4006
TP4008
TP4009
GND
P4001
P4002
P4003
P4004
P4006
P4007
L4001 4.7m
L4004 4.7m
L4003 4.7μ
L4006 4.7μ
Q4007 2SD958
Q4008 2SD958
Q4010 2SB788
Q4024 2SD958
Q4023 2SD958
Q4026 2SB788
Q4021 2SB64
D4012 OA95

NOTE: UNLESS OTHERWISE SPECIFIED, ALL DIODES ARE MA165
UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

4 5 6 7 8


Audio & Dancing (1) C.B.A.

P4005

SLP	Ⓗ	1	P3004 – 2
————		2	
REC	Ⓗ	3	P3004 – 6
EE/VV	Ⓛ	4	P3004 – 4
EXCEPT REC	Ⓗ	5	P3004 – 7
MUTE	Ⓗ	6	P6707 – 5
PIEZO	Ⓗ	7	P3004 – 1
A. D	Ⓗ	8	P6016 – 6
LOADING END REC AD	Ⓛ	9	P6016 – 4
————		10	
AD CH2		11	P1550 – 8
AD CH1		12	P1550 – 2

P4006

12V	1	P1006 – 9
GND	2	P1553 – 5

P4007

LINE OUT (CH1)		1	P4301 – 9
GND		2	
GND		3	P2804 – 1
N. R ON	Ⓛ	4	P4301 – 3
GND		5	
LINE OUT (CH2)		6	P4301 – 6

P4008

GND	1	
INDEX SIGNAL	2	P6651 – 2
FULL ERASE	3	P1513 – 1
GND	4	
GND	5	P1505 – 4

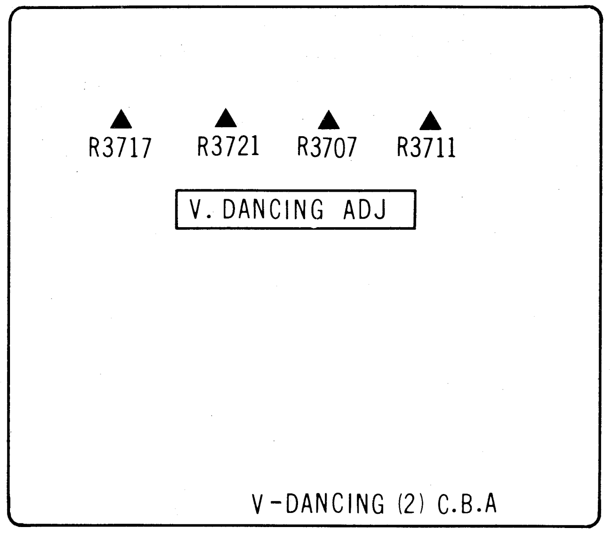
P4009

A. ERASE (CH1)	1
A. ERASE (CH1)	2
GND	3
A. ERASE (CH2)	4
GND	5

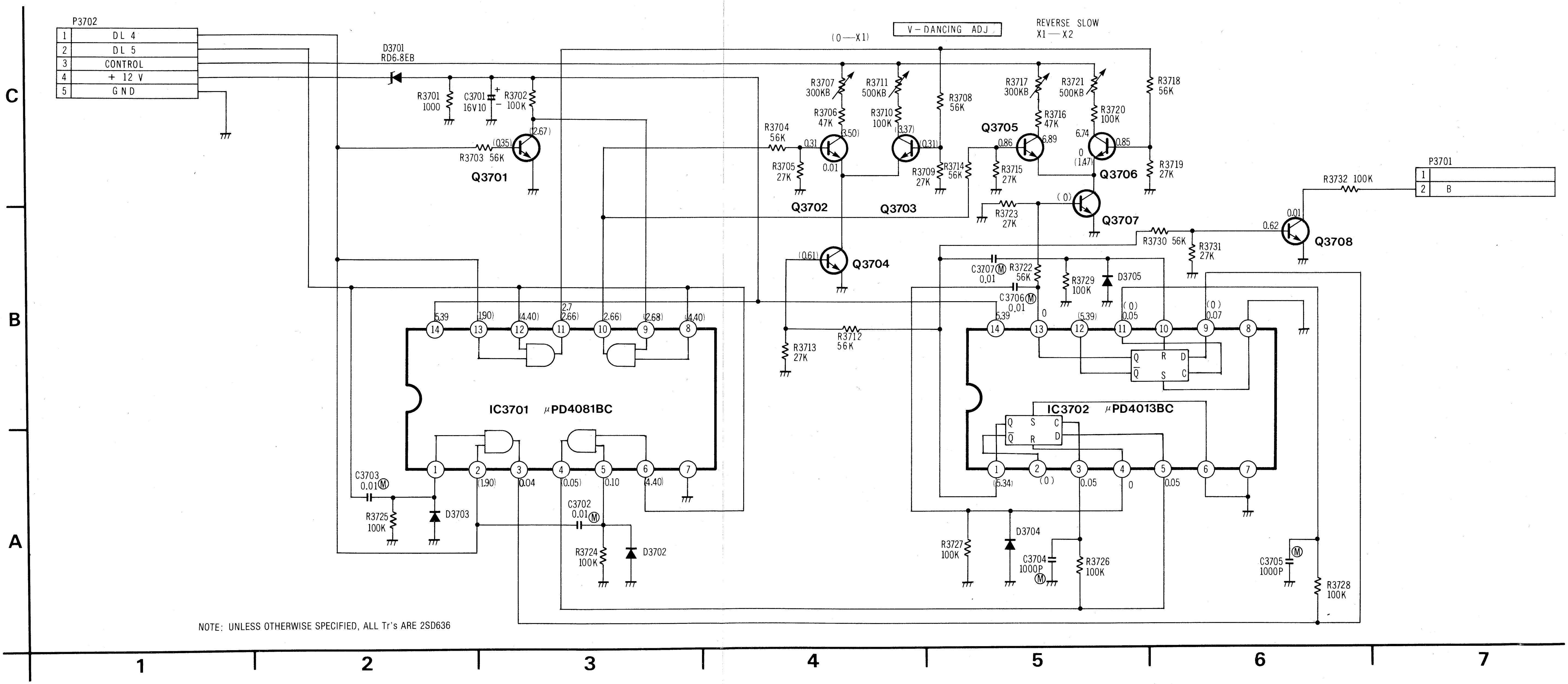
Audio & Dancing (1) C.B.A.

Audio Section			
Q4002	D-8	Q4040	B-3
Q4003	D-5	Q4041	B-3
Q4004	B-4	Q4042	C-4
Q4005	B-4	Q4043	C-4
Q4006	A-4	Q4044	C-3
Q4007	C-6	Q4045	C-3
Q4008	C-6	Q4046	C-3
Q4009	C-5	Q4047	D-3
Q4010	C-6	Q4048	C-3
Q4011	C-5		
Q4012	C-6	IC4001	C-7
Q4014	C-6	IC4002	B-7
Q4015	D-6	IC4003	C-5
Q4016	C-6	IC4004	B-5
Q4018	B-8		
Q4019	B-5	Dancing (1) Section	
Q4020	A-4	Q3501	A-2
Q4021	A-4	Q3502	A-2
Q4022	A-3	Q3503	C-2
Q4023	A-6	Q3504	B-2
Q4024	B-6	Q3505	D-2
Q4025	A-5	Q3506	C-1
Q4026	A-6	Q3507	C-2
Q4027	A-5	Q3508	D-1
Q4028	A-6	Q3509	D-2
Q4029	B-4	Q3510	D-2
Q4031	B-6	Q3511	C-1
Q4032	B-6	Q3512	C-1
Q4033	B-6	Q3513	D-1
Q4034	C-3	Q3514	D-2
Q4035	A-3		
Q4036	B-3	IC3501	B-2
Q4037	A-3	IC3502	B-2
Q4038	B-3	IC3503	A-2
Q4039	B-3	IC3504	C-2

P3702 (V-Dancing COMP (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	DL4	V-Dancing COMP (I) Section
2	DL5	V-Dancing COMP (I) Section
3	Control	V-Dancing COMP (I) Section
4	12V	V-Dancing COMP (I) Section
5	GND	V-Dancing COMP (I) Section

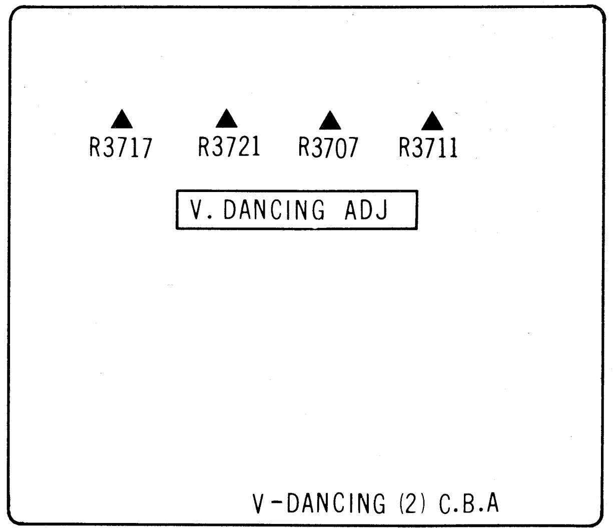

▲ R3717
▲ R3721
▲ R3707
▲ R3711
V. DANCING ADJ
V-DANCING (2) C.B.A

V-DANCING COMP. (2) SCHEMATIC DIAGRAM

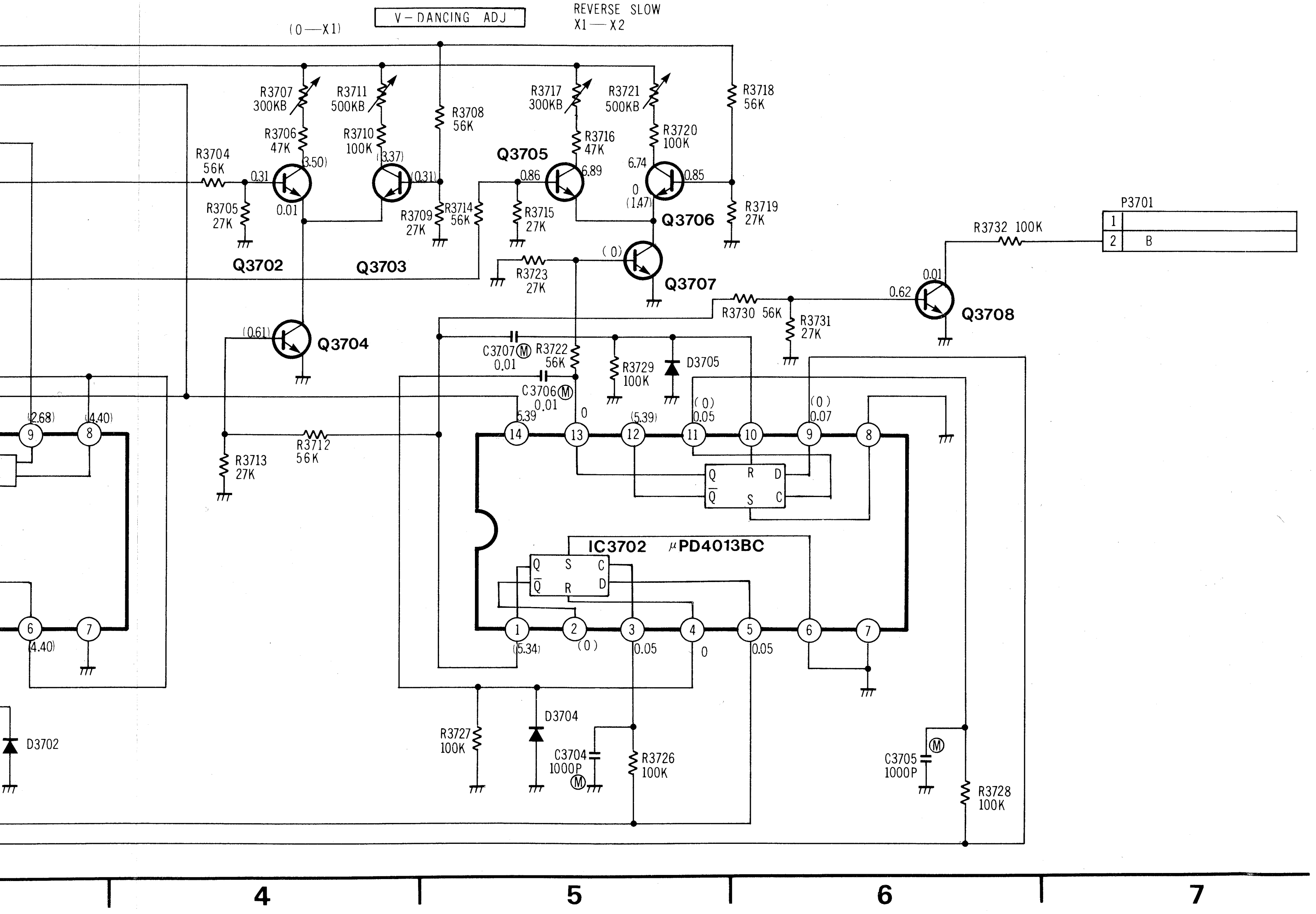

P3702
1 DL 4
2 DL 5
3 CONTROL
4 + 12 V
5 GND
D3701 RD6.8EB
R3701 1000
C3701 16V10
R3702 100K
(2.67)
(0.35)
R3703 56K
Q3701
(0—X1)
V-DANCING ADJ
REVERSE SLOW X1—X2
R3707 300KB
R3711 500KB
R3706 47K
R3710 100K
R3708 56K
R3704 56K
0.31
(3.50)
(3.37)
(0.31)
0.01
R3705 27K
R3709 27K
R3714 56K
Q3702
Q3703
(0.61)
Q3704
R3713 27K
R3712 56K
R3717 300KB
R3721 500KB
R3716 47K
R3720 100K
R3718 56K
Q3705
0.86
6.89
6.74
0.85
0 (1.47)
Q3706
R3715 27K
R3719 27K
(0)
R3723 27K
Q3707
R3730 56K
R3731 27K
0.01
0.62
Q3708
R3732 100K
P3701
1
2 B
C3707 Ⓜ 0.01
R3722 56K
C3706 Ⓜ 0.01
R3729 100K
D3705
5.39
(1.90)
(4.40)
2.7 (2.66)
(2.66)
(2.68)
(4.40)
IC3701 μPD4081BC
(1.90)
0.04
(0.05)
0.10
(4.40)
C3703 0.01 Ⓜ
R3725 100K
D3703
C3702 0.01 Ⓜ
R3724 100K
D3702
5.39
0
(5.39)
(0) 0.05
(0) 0.07
Q R D
Q̄ S C
IC3702 μPD4013BC
Q S C
Q̄ R D
(5.34)
(0)
0.05
0
0.05
R3727 100K
D3704
C3704 1000P Ⓜ
R3726 100K
C3705 Ⓜ 1000P
R3728 100K
C
B
A
1
2
3
4
5
6
7

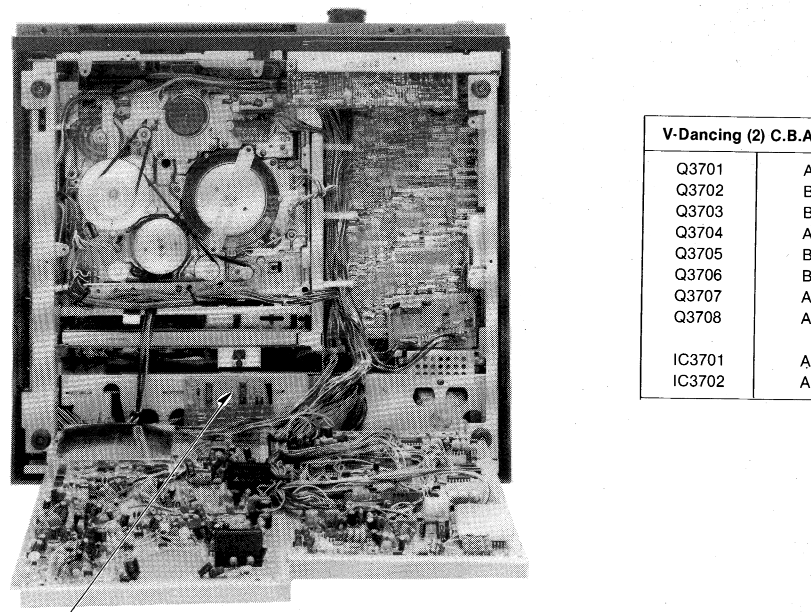
NOTE: UNLESS OTHERWISE SPECIFIED, ALL Tr's ARE 2SD636

P3702 (V-Dancing COMP (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	DL4	V-Dancing COMP (I) Section
2	DL5	V-Dancing COMP (I) Section
3	Control	V-Dancing COMP (I) Section
4	12V	V-Dancing COMP (I) Section
5	GND	V-Dancing COMP (I) Section


▲ R3717
▲ R3721
▲ R3707
▲ R3711
V. DANCING ADJ
V-DANCING (2) C.B.A

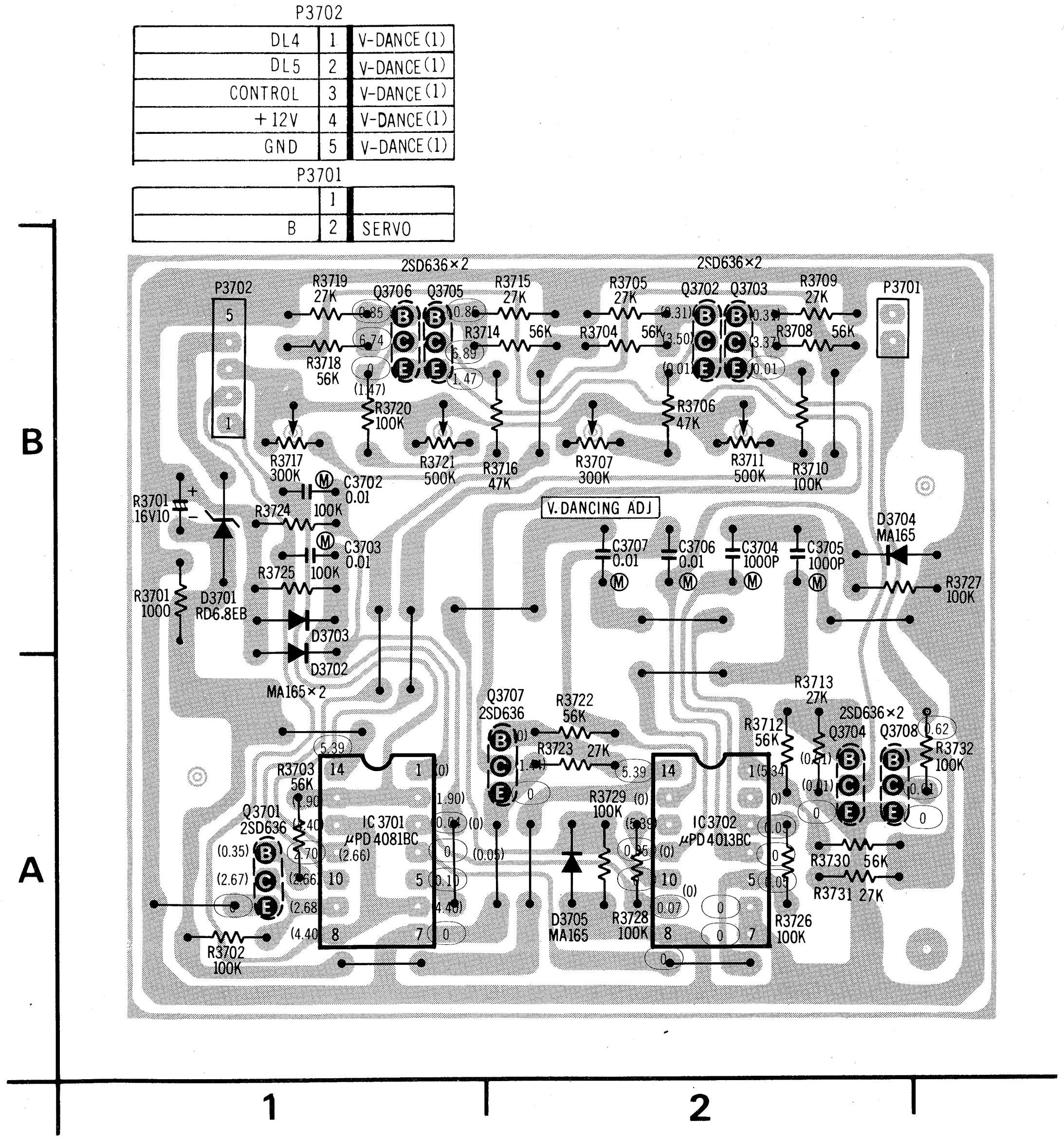
M


V－DANCING ADJ
(0—X1)
REVERSE SLOW
X1—X2
R3707 300KB
R3711 500KB
R3708 56K
R3717 300KB
R3721 500KB
R3718 56K
R3706 47K
R3710 100K
R3716 47K
R3720 100K
R3704 56K
R3705 27K
R3709 27K
R3714 56K
R3715 27K
R3719 27K
Q3702
Q3703
Q3704
Q3705
Q3706
Q3707
Q3708
R3723 27K
R3730 56K
R3731 27K
R3732 100K
P3701
B
C3707 0.01
R3722 56K
C3706 0.01
R3729 100K
D3705
R3712 56K
R3713 27K
IC3702 μPD4013BC
R3727 100K
D3704
C3704 1000P
R3726 100K
C3705 1000P
R3728 100K
D3702
4
5
6
7

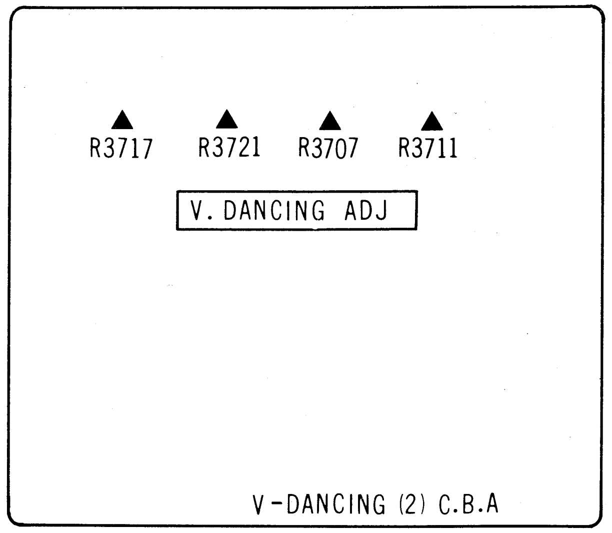

V-Dancing (2) C.B.A.

V-Dancing (2) C.B.A.	
Q3701	A-1
Q3702	B-2
Q3703	B-2
Q3704	A-2
Q3705	B-1
Q3706	B-1
Q3707	A-2
Q3708	A-2
IC3701	A-1
IC3702	A-2

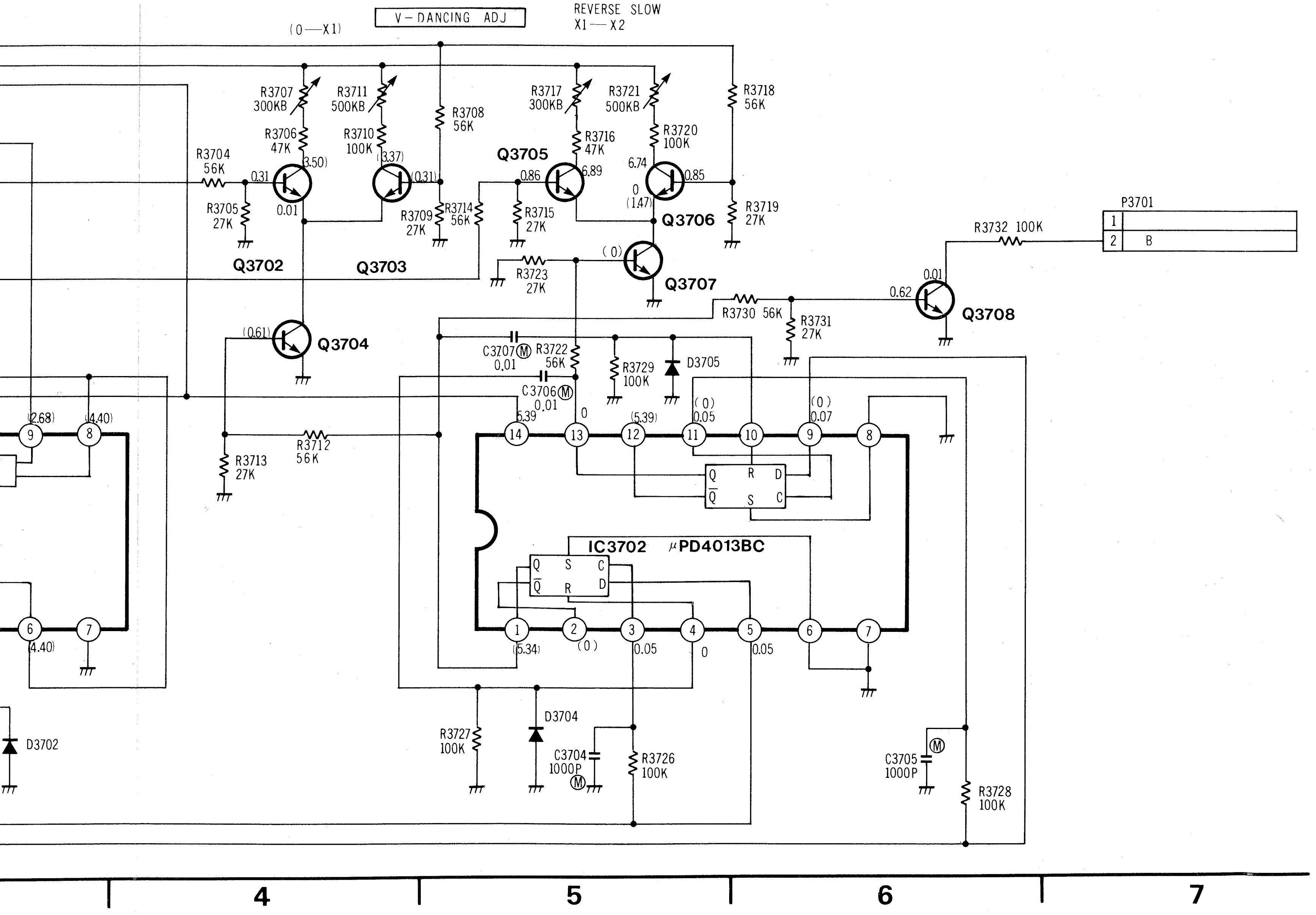
V-DANCING COMP. (2) C.B.A (VEP03142A)

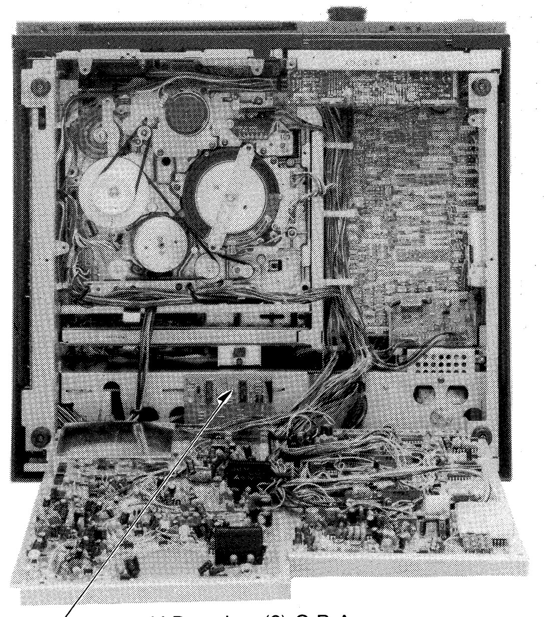

P3702
DL4 1 V-DANCE(1)
DL5 2 V-DANCE(1)
CONTROL 3 V-DANCE(1)
+12V 4 V-DANCE(1)
GND 5 V-DANCE(1)
P3701
1
B 2 SERVO
2SD636×2
V.DANCING ADJ
IC3701 μPD4081BC
IC3702 μPD4013BC
Q3701 2SD636
Q3707 2SD636
2SD636×2
D3701 RD6.8EB
MA165×2
D3704 MA165
D3705 MA165
A
B
1
2

P3702 (V-Dancing COMP (II) C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	DL4	V-Dancing COMP (I) Section
2	DL5	V-Dancing COMP (I) Section
3	Control	V-Dancing COMP (I) Section
4	12V	V-Dancing COMP (I) Section
5	GND	V-Dancing COMP (I) Section


R3717
R3721
R3707
R3711
V. DANCING ADJ
V-DANCING (2) C.B.A

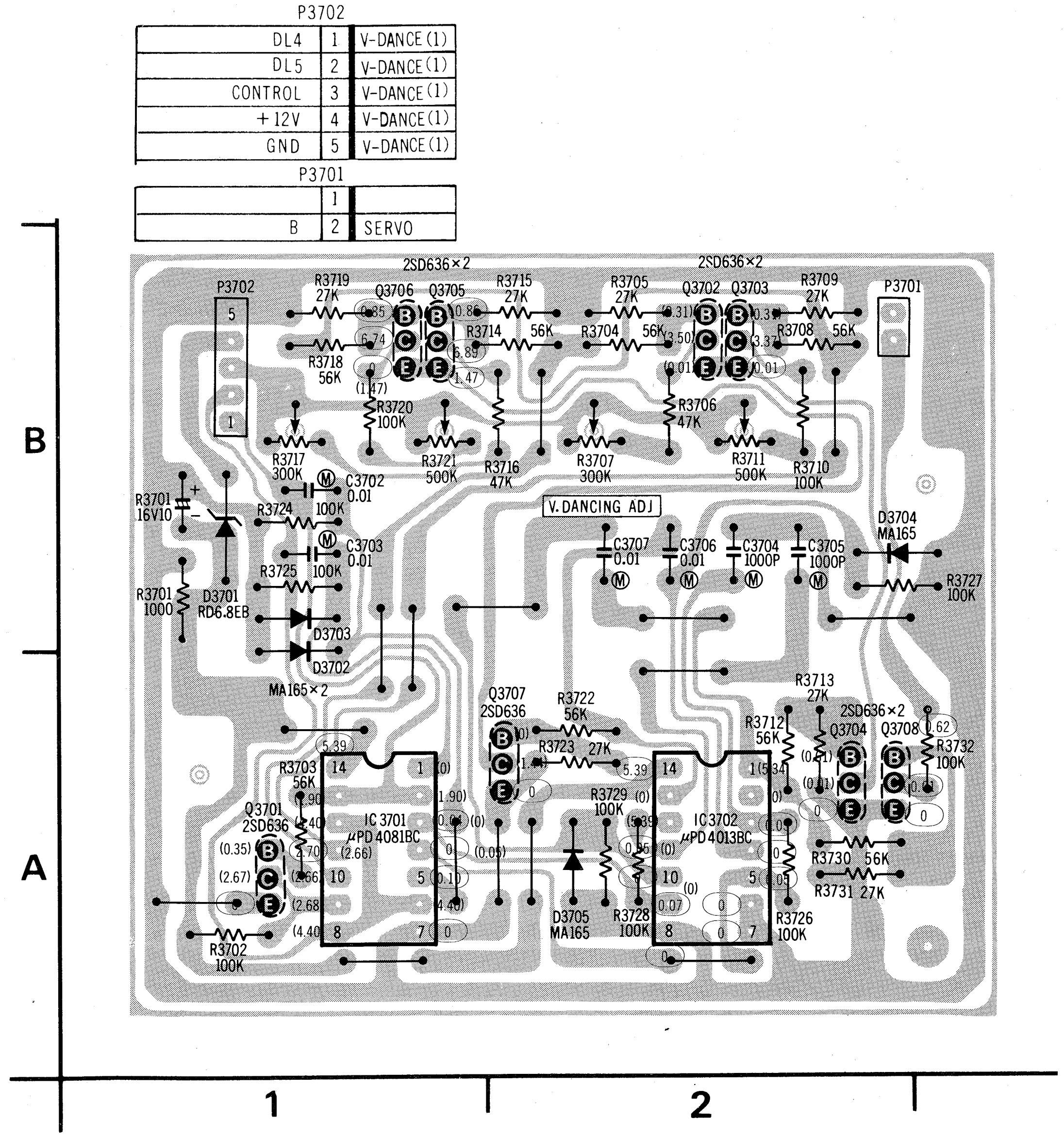
M


V-DANCING ADJ
(0—X1)
REVERSE SLOW X1—X2
R3707 300KB
R3711 500KB
R3708 56K
R3717 300KB
R3721 500KB
R3718 56K
R3706 47K
R3710 100K
R3716 47K
R3720 100K
R3704 56K
R3705 27K
R3709 27K
R3714 56K
R3715 27K
R3719 27K
Q3702
Q3703
Q3704
Q3705
Q3706
Q3707
Q3708
R3723 27K
R3730 56K
R3731 27K
R3732 100K
P3701
B
C3707 0.01
R3722 56K
C3706 0.01
R3729 100K
D3705
R3712 56K
R3713 27K
IC3702 μPD4013BC
R3727 100K
D3704
C3704 1000P
R3726 100K
C3705 1000P
R3728 100K
D3702
4
5
6
7


V-Dancing (2) C.B.A.

V-Dancing (2) C.B.A.	
Q3701	A-1
Q3702	B-2
Q3703	B-2
Q3704	A-2
Q3705	B-1
Q3706	B-1
Q3707	A-2
Q3708	A-2
IC3701	A-1
IC3702	A-2

V-DANCING COMP. (2) C.B.A (VEP03142A)


P3702
DL4 1 V-DANCE (1)
DL5 2 V-DANCE (1)
CONTROL 3 V-DANCE (1)
+12V 4 V-DANCE (1)
GND 5 V-DANCE (1)
P3701
B 2 SERVO
2SD636×2
V. DANCING ADJ
IC 3701 μPD4081BC
IC3702 μPD4013BC
D3701 RD6.8EB
MA165×2
Q3707 2SD636
Q3701 2SD636
B
A
1
2

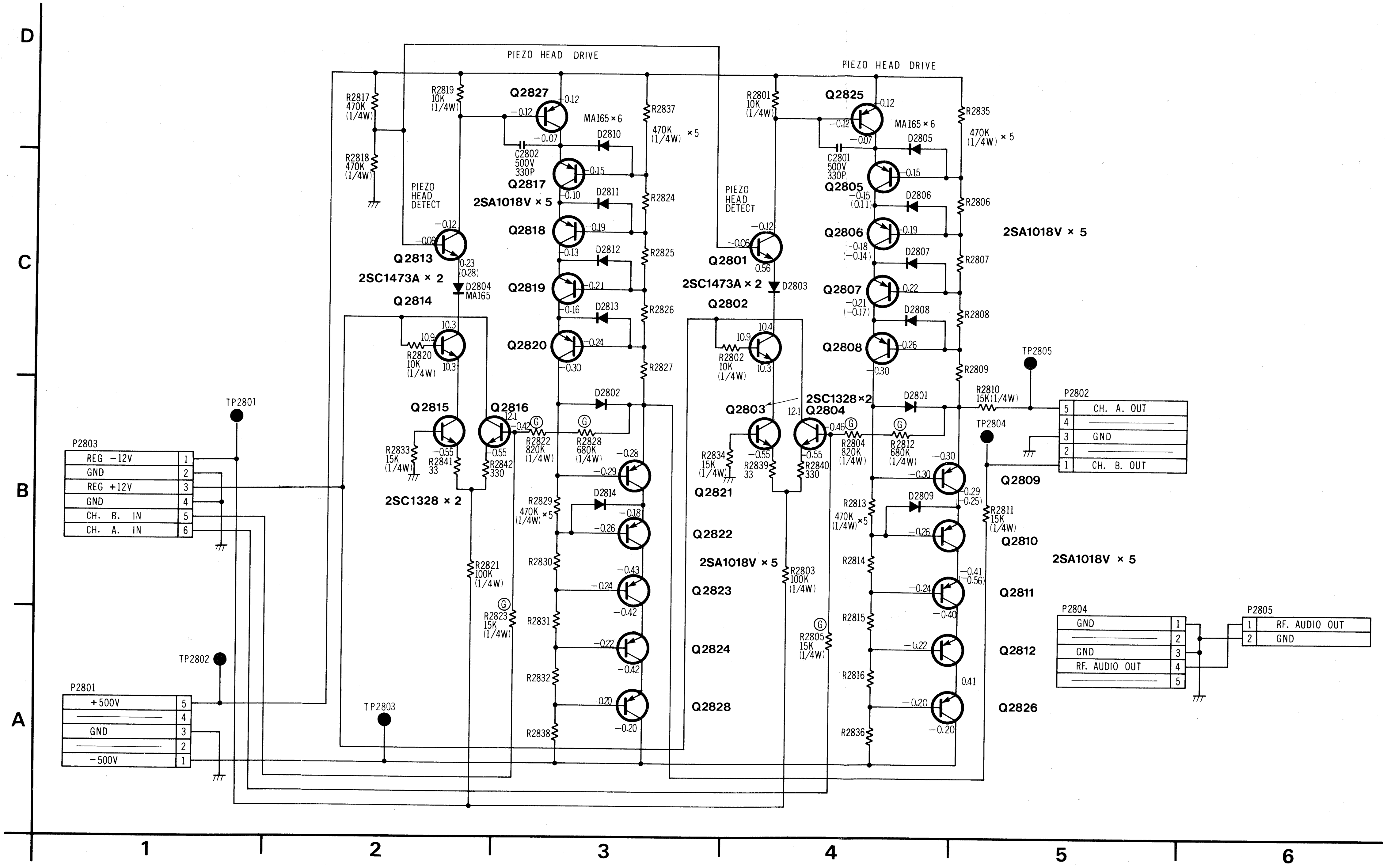
P2801 (Piezo Drive C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	−500V	P1008-5 Power Supply C.B.A
2	—	— —
3	GND	P1008-3 Power Supply C.B.A
4	—	— —
5	+500V	P1008-1 Power Supply C.B.A

P2803 (Piezo Drive C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	REG −12V	P1007-6 Power Supply C.B.A
2	GND	P1006-4 Power Supply C.B.A
3	REG +12V	P1006-10 Power Supply C.B.A
4	GND	P2501-1 Pattern Generator C.B.A
5	CH B In	P2501-1 Pattern Generator C.B.A
6	CH A In	P2501-1 Pattern Generator C.B.A

P2805 (Piezo Drive		
PIN NO.	SIGNAL NAME	
1	PF Audio Out	P1-5
2	GND	—

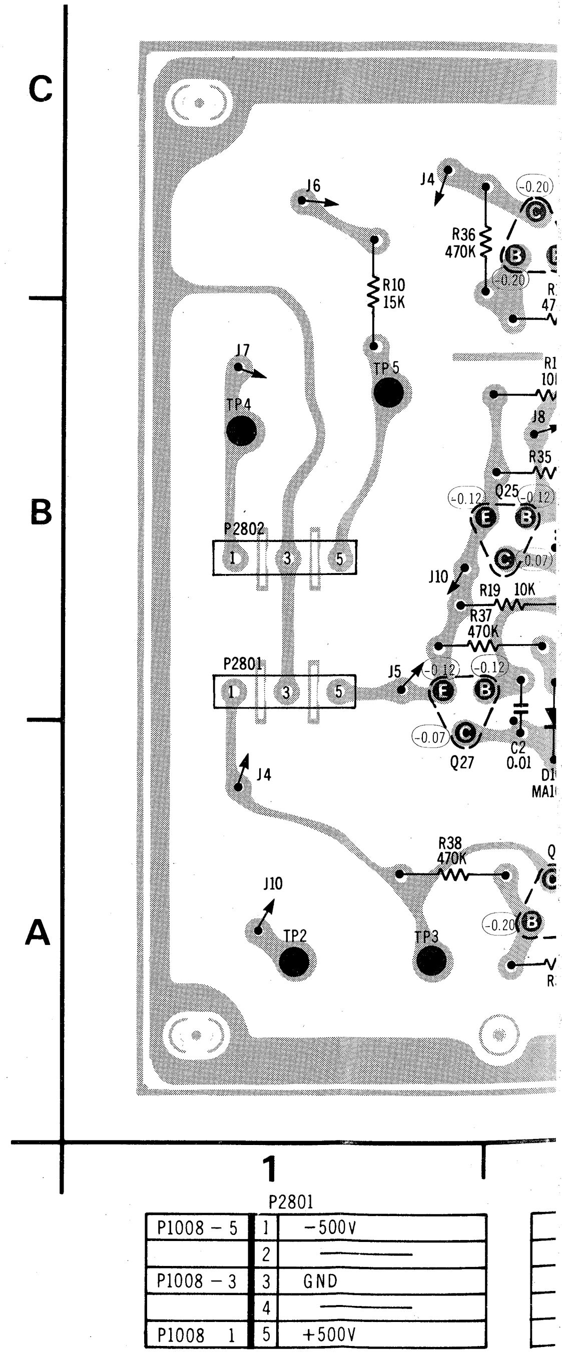
P2804 (Piezo Drive		
PIN NO.	SIGNAL NAME	
1	GND	P400
2	—	—
3	GND	—
4	RF Audio Out	P430
5	—	—

PIEZO HEAD DRIVE SCHEMATIC DIAGRAM



D
C
B
A
1
2
3
4
5
6
PIEZO HEAD DRIVE
PIEZO HEAD DETECT
Q2827
Q2817
Q2818
Q2819
Q2820
Q2813
Q2814
Q2815
Q2816
2SA1018V × 5
2SC1473A × 2
2SC1328 × 2
MA165 × 6
Q2825
Q2805
Q2806
Q2807
Q2808
Q2801
Q2802
Q2803
Q2804
2SC1328×2
Q2821
Q2822
Q2823
Q2824
Q2828
Q2809
Q2810
Q2811
Q2812
Q2826
TP2801
TP2802
TP2803
TP2804
TP2805
P2803
REG −12V
GND
REG +12V
GND
CH. B. IN
CH. A. IN
P2801
+500V
GND
−500V
P2802
CH. A. OUT
GND
CH. B. OUT
P2804
GND
GND
RF. AUDIO OUT
P2805
RF. AUDIO OUT
GND

PIEZO HEAD DRIV



C
B
A
1
J6
J4
R36 470K
R10 15K
J7
TP4
TP5
Q25
P2802
J10
R19 10K
R37 470K
P2801
J5
Q27
C2 0.01
J4
R38 470K
J10
TP2
TP3
P2801
P1008 − 5
−500V
P1008 − 3
GND
P1008 1
+500V

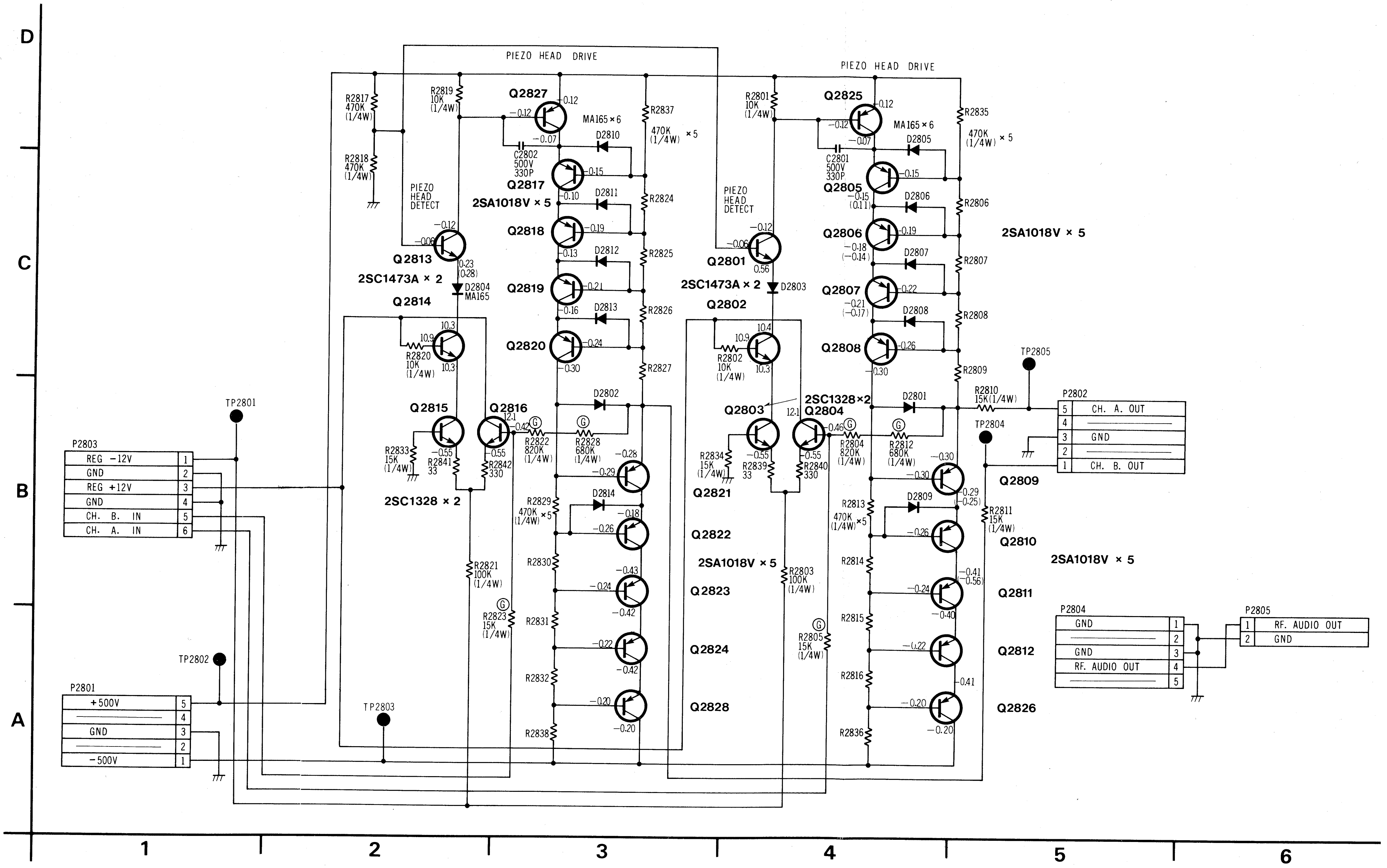
P2801 (Piezo Drive C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	−500V	P1008-5 Power Supply C.B.A
2	—	— —
3	GND	P1008-3 Power Supply C.B.A
4	—	— —
5	+500V	P1008-1 Power Supply C.B.A

P2803 (Piezo Drive C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	REG −12V	P1007-6 Power Supply C.B.A
2	GND	P1006-4 Power Supply C.B.A
3	REG +12V	P1006-10 Power Supply C.B.A
4	GND	P2501-1 Pattern Generator C.B.A
5	CH B In	P2501-1 Pattern Generator C.B.A
6	CH A In	P2501-1 Pattern Generator C.B.A

P2805 (Piezo Drive		
PIN NO.	SIGNAL NAME	
1	PF Audio Out	P1-5
2	GND	—

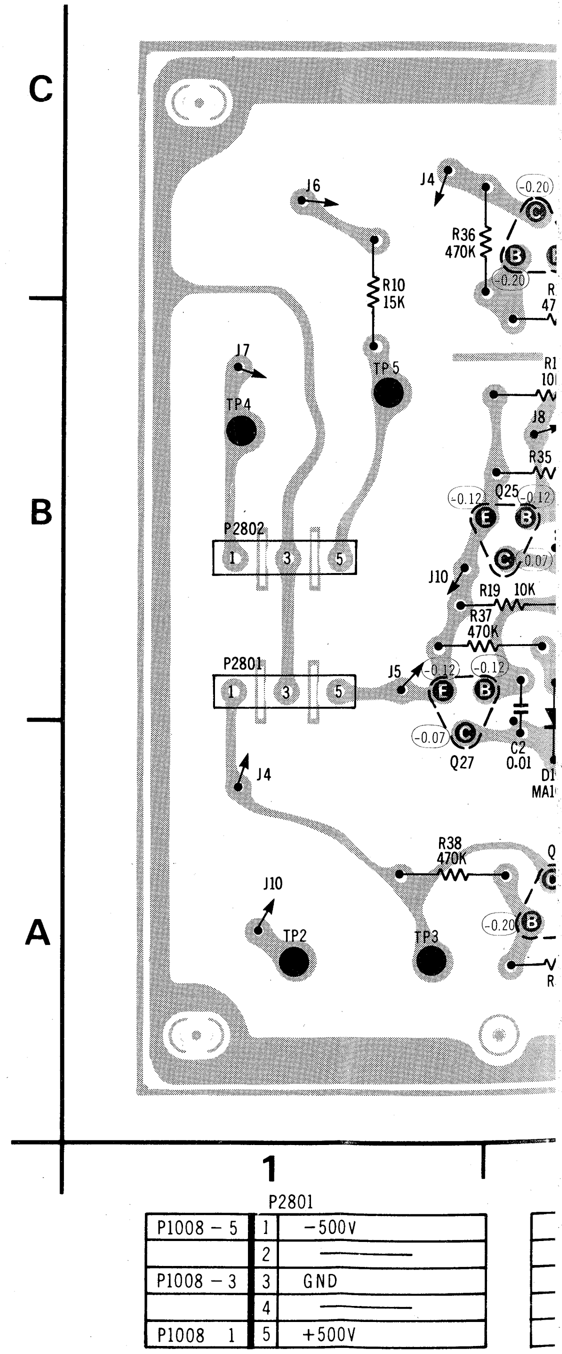
P2804 (Piezo Drive		
PIN NO.	SIGNAL NAME	
1	GND	P400
2	—	—
3	GND	—
4	RF Audio Out	P430
5	—	—

PIEZO HEAD DRIVE SCHEMATIC DIAGRAM



D
C
B
A
1
2
3
4
5
6
PIEZO HEAD DRIVE
PIEZO HEAD DRIVE
PIEZO HEAD DETECT
PIEZO HEAD DETECT
R2817 470K (1/4W)
R2818 470K (1/4W)
R2819 10K (1/4W)
Q2827
C2802 500V 330P
Q2817
2SA1018V × 5
MA165 × 6
D2810
D2811
D2812
D2813
R2837 470K (1/4W) × 5
R2824
R2825
R2826
R2827
Q2818
Q2819
Q2820
Q2813
2SC1473A × 2
D2804 MA165
Q2814
R2820 10K (1/4W)
Q2815
Q2816
2SC1328 × 2
R2833 15K (1/4W)
R2841 33
R2842 330
R2822 820K (1/4W)
D2802
R2828 680K (1/4W)
D2814
R2829 470K (1/4W) × 5
R2830
R2831
R2832
R2838
R2821 100K (1/4W)
R2823 15K (1/4W)
R2801 10K (1/4W)
Q2825
C2801 500V 330P
Q2805
MA165 × 6
D2805
D2806
D2807
D2808
R2835 470K (1/4W) × 5
R2806
R2807
R2808
R2809
Q2806
Q2807
Q2808
2SA1018V × 5
Q2801
2SC1473A × 2
D2803
Q2802
R2802 10K (1/4W)
Q2803
2SC1328×2
Q2804
R2834 15K (1/4W)
R2839 33
R2840 330
R2804 820K (1/4W)
R2812 680K (1/4W)
D2801
R2810 15K (1/4W)
D2809
R2811 15K (1/4W)
R2813 470K (1/4W) × 5
R2814
R2815
R2816
R2836
R2803 100K (1/4W)
R2805 15K (1/4W)
Q2809
Q2810
Q2811
Q2812
Q2826
2SA1018V × 5
Q2821
Q2822
2SA1018V × 5
Q2823
Q2824
Q2828
TP2801
TP2802
TP2803
TP2804
TP2805
P2803
REG −12V 1
GND 2
REG +12V 3
GND 4
CH. B. IN 5
CH. A. IN 6
P2801
+500V 5
4
GND 3
2
−500V 1
P2802
5 CH. A. OUT
4
3 GND
2
1 CH. B. OUT
P2804
GND 1
2
GND 3
RF. AUDIO OUT 4
5
P2805
1 RF. AUDIO OUT
2 GND

PIEZO HEAD DRIV

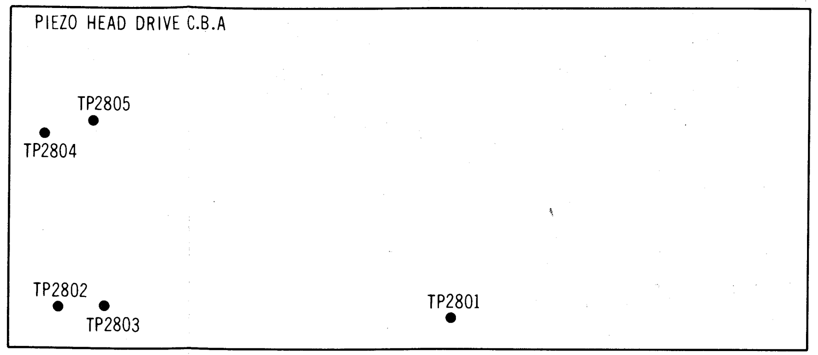


C
B
A
1
J6
J4
R36 470K
R10 15K
TP5
J7
TP4
P2802
J10
R19 10K
R37 470K
P2801
J5
Q27
C2
J4
R38 470K
J10
TP2
TP3
P2801
P1008 − 5 1 −500V
2
P1008 − 3 3 GND
4
P1008 1 5 +500V

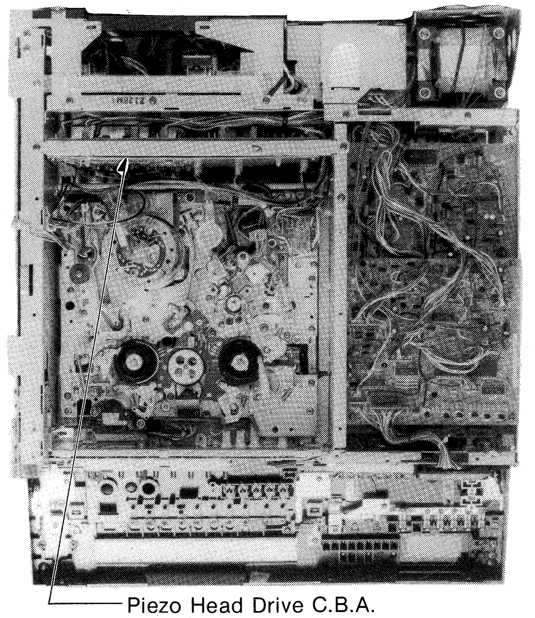
N
A
A
A
C.B.A
C.B.A
C.B.A

P2805 (Piezo Drive C.B.A)		
PIN NO.	**SIGNAL NAME**	**DESTINATION**
1	PF Audio Out	P1-5 RF Converter
2	GND	— —

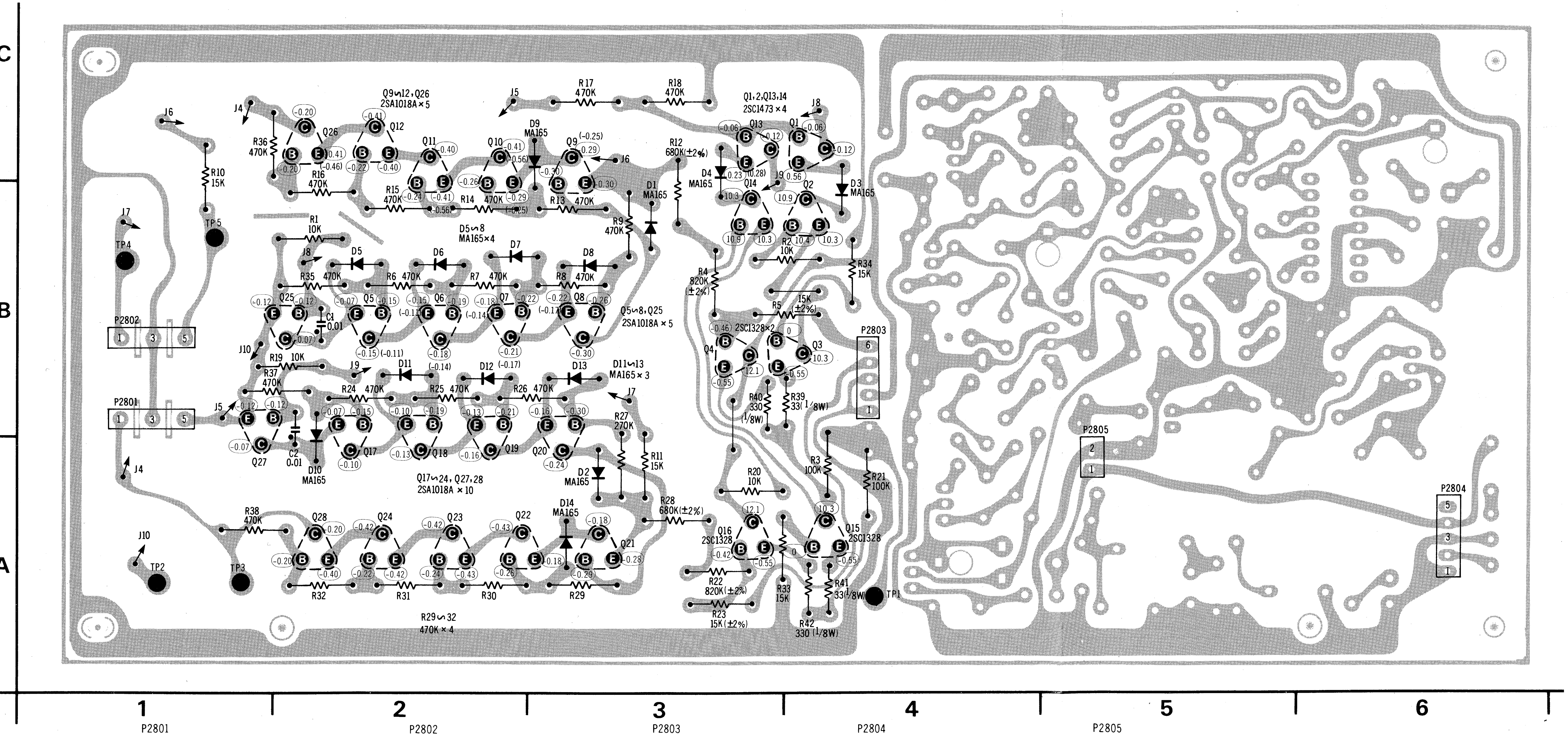
P2804 (Piezo Drive C.B.A)		
PIN NO.	**SIGNAL NAME**	**DESTINATION**
1	GND	P4007-3 Audio & V-Dancing COMP (I) C.B.A
2	—	— —
3	GND	— —
4	RF Audio Out	P4301-11 Audio Output Select C.B.A
5	—	— —



PIEZO HEAD DRIVE C.B.A
TP2805
TP2804
TP2802
TP2803
TP2801


Piezo Head Drive C.B.A.

PIEZO HEAD DRIVE C.B.A. (VEP07136A)



C
B
A
1
2
3
4
5
6
J6
J4
R36 470K
Q26
R10 15K
Q9∽12, Q26 2SA1018A×5
Q12
Q11
Q10
D9 MA165
Q9
J5
R17 470K
R18 470K
Q1, 2, Q13, 14 2SC1473×4
J8
Q13
Q1
R12 680K(±2%)
D4 MA165
D1 MA165
Q14
Q2
D3 MA165
R16 470K
R15 470K
R14 470K
R13 470K
R9 470K
J7
TP4
TP5
R1 10K
J8
D5∽8 MA165×4
D5
D6
D7
D8
R35 470K
R6 470K
R7 470K
R8 470K
R4 820K (±2%)
R2 10K
R34 15K
Q25
Q5
Q6
Q7
Q8
C1 0.01
Q5∽8, Q25 2SA1018A×5
R5 15K (±2%)
2SC1328×2
Q4
Q3
P2803
P2802
J10
R19 10K
R37 470K
J9
D11
D12
D13
D11∽13 MA165×3
R24 470K
R25 470K
R26 470K
J7
R40 330 (1/8W)
R39 33 (1/8W)
P2801
J5
R27 270K
R11 15K
Q27
C2 0.01
D10 MA165
Q17
Q18
Q19
Q20
D2 MA165
Q17∽24, Q27, 28 2SA1018A×10
J4
R20 10K
R3 100K
R21 100K
P2805
R28 680K(±2%)
R38 470K
Q28
Q24
Q23
Q22
D14 MA165
Q21
Q16 2SC1328
Q15 2SC1328
P2804
J10
TP2
TP3
R32
R31
R30
R29
R29∽32 470K×4
R22 820K(±2%)
R23 15K(±2%)
R33 15K
R41 33(1/8W)
TP1
R42 330 (1/8W)

P2801

P1008 − 5	1	−500V
	2	———
P1008 − 3	3	GND
	4	———
P1008 1	5	+500V

P2802

CH B	1	PIEZO
———	2	
GND	3	PIEZO
———	4	
CH A	5	PIEZO

P2803

REG −12V	1	P1007 − 6
GND	2	P1006 − 4
REG +12V	3	P1006 −10
GND	4	P2501 − 1
CH B IN	5	P2501 − 2
CH A IN	6	P2501 − 3

P2804

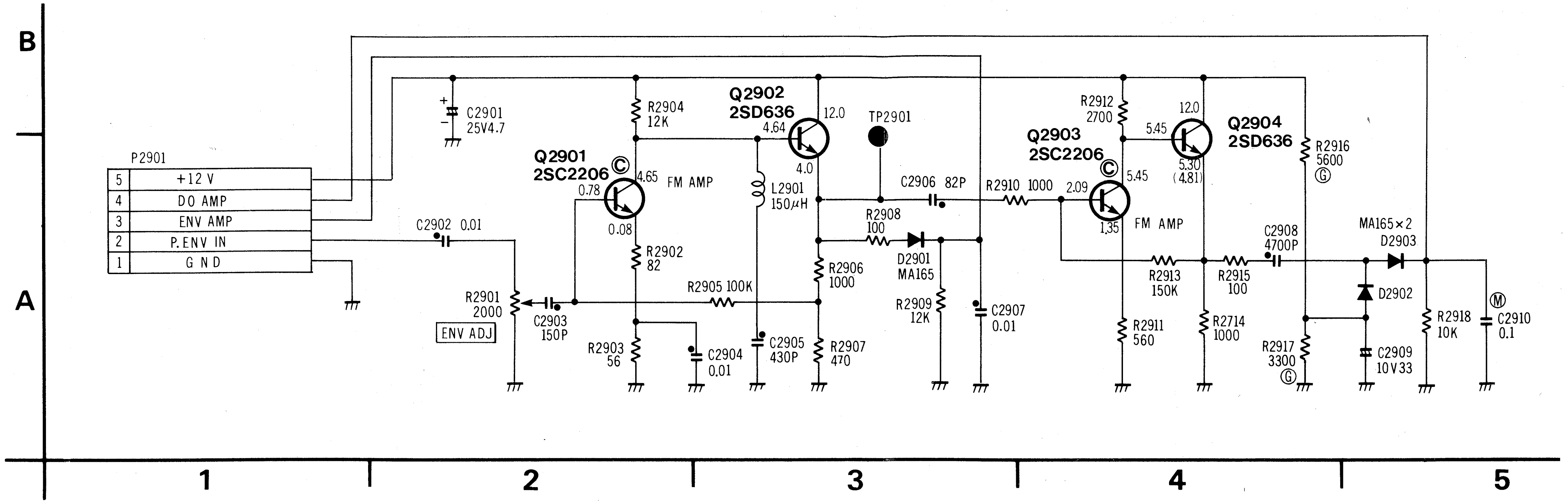
P4007 − 3	1	GND
	2	———
	3	GND
P4301 − 11	4	RF. AUDIO IN
	5	———

P2805

P1 − 5	1	PF. AUDIO OUT
	2	GND

Piezo Head Drive C.B.A.	
Q2801	C-4
Q2802	B-4
Q2803	B-3
Q2804	B-3
Q2805	B-2
Q2806	B-2
Q2807	B-2
Q2808	B-3
Q2809	C-3
Q2810	C-2
Q2811	C-2
Q2812	C-2
Q2813	C-3
Q2814	B-3
Q2815	A-4
Q2816	A-3
Q2817	B-2
Q2818	B-2
Q2819	B-2
Q2820	B-3
Q2821	A-3
Q2822	A-2
Q2823	A-2
Q2824	A-2
Q2825	B-2
Q2826	C-2
Q2827	B-1
Q2828	A-2

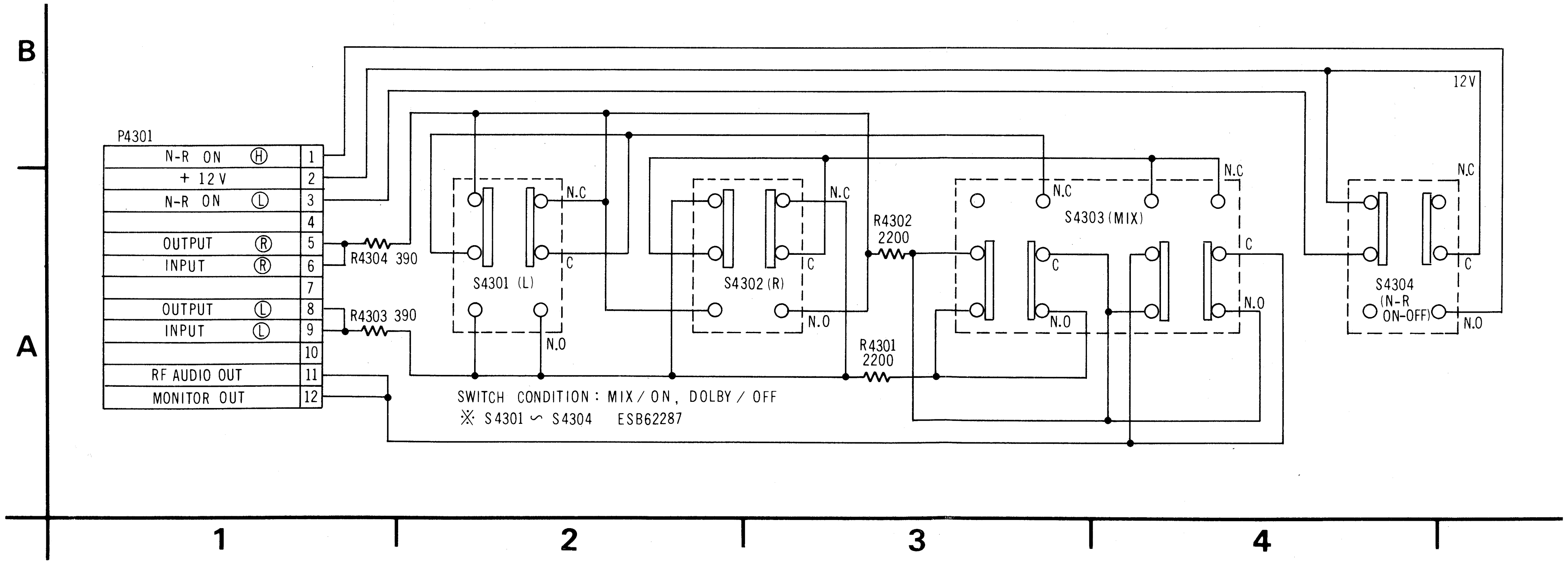
ENVELOPE AMP SCHEMATIC DIAGRAM


B
A
1
2
3
4
5
P2901
5 +12 V
4 DO AMP
3 ENV AMP
2 P.ENV IN
1 G N D
C2901 25V4.7
C2902 0.01
R2901 2000
ENV ADJ
C2903 150P
Q2901 2SC2206 ©
0.78
4.65
0.08
FM AMP
R2904 12K
R2902 82
R2903 56
C2904 0.01
R2905 100K
L2901 150μH
C2905 430P
Q2902 2SD636
4.64
12.0
4.0
TP2901
C2906 82P
R2908 100
D2901 MA165
R2906 1000
R2907 470
R2909 12K
C2907 0.01
R2910 1000
2.09
Q2903 2SC2206 ©
R2912 2700
5.45
1.35
FM AMP
Q2904 2SD636
12.0
5.45
5.30 (4.81)
R2913 150K
R2915 100
R2911 560
R2714 1000
C2908 4700P
R2916 5600 Ⓖ
R2917 3300 Ⓖ
MA165×2
D2903
D2902
C2909 10V33
R2918 10K
Ⓜ C2910 0.1

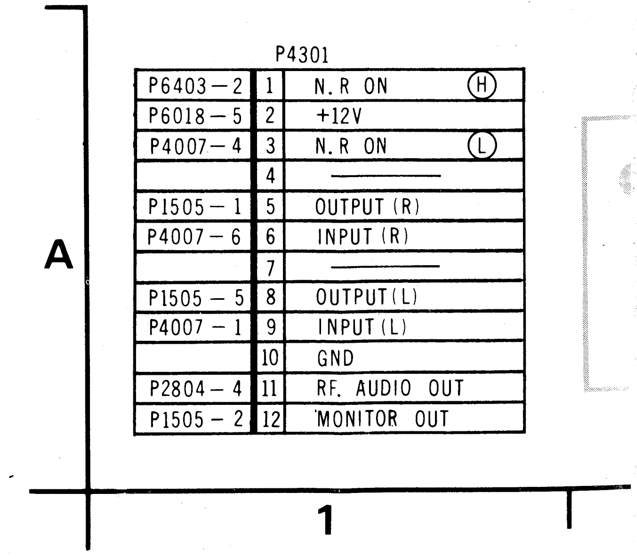
P2901 (Envelope AMP C.B.A)			
PIN NO.	SIGNAL NAME	DESTINA	
1	GND	P2305-1	Search Sectio
2	P. ENV. In	P3006-4	Luminance &
3	ENV. AMP	P2305-3	Search Sectio
4	Drop Out AMP	P2305-2	Search Sectio
5	12V	P2305-5	Search Sectio

P4301 (Audio Output Select C.B.A)			
PIN NO.	SIGNAL NAME	DESTINA	
1	N.R On (H)	P6403-2	Operation (II)
2	+12V	P6018-5	System Contr
3	N.R On (L)	P4007-4	Audio & V-Dar C.B.A
4	—	—	—
5	Output (R)	P1505-1	Output Jack C
6	Input (R)	P4007-6	Audio & V-Dar C.B.A
7	—	—	—
8	Output (L)	P1505-5	Output Jack C
9	Input (L)	P4007-1	Audio & V-Dar C.B.A
10	GND	—	—
11	RF Audio Out	P2804-4	Piezo Drive C.
12	Monitor Out	P1505-2	Output Jack C

AUDIO OUTPUT SELECT SW SCHEMATIC DIAGRAM


B
A
1
2
3
4
P4301
N-R ON Ⓗ 1
+ 12V 2
N-R ON Ⓛ 3
4
OUTPUT Ⓡ 5
INPUT Ⓡ 6
7
OUTPUT Ⓛ 8
INPUT Ⓛ 9
10
RF AUDIO OUT 11
MONITOR OUT 12
R4304 390
R4303 390
N.C
C
N.O
S4301 (L)
S4302 (R)
R4302 2200
R4301 2200
S4303 (MIX)
S4304 (N-R ON-OFF)
12V
SWITCH CONDITION : MIX / ON, DOLBY / OFF
※ S4301 ∽ S4304 ESB62287

AUDIO OUTPUT SELE


A
1
P4301
P6403−2 1 N. R ON Ⓗ
P6018−5 2 +12V
P4007−4 3 N. R ON Ⓛ
4
P1505−1 5 OUTPUT (R)
P4007−6 6 INPUT (R)
7
P1505−5 8 OUTPUT (L)
P4007−1 9 INPUT (L)
10 GND
P2804−4 11 RF. AUDIO OUT
P1505−2 12 MONITOR OUT

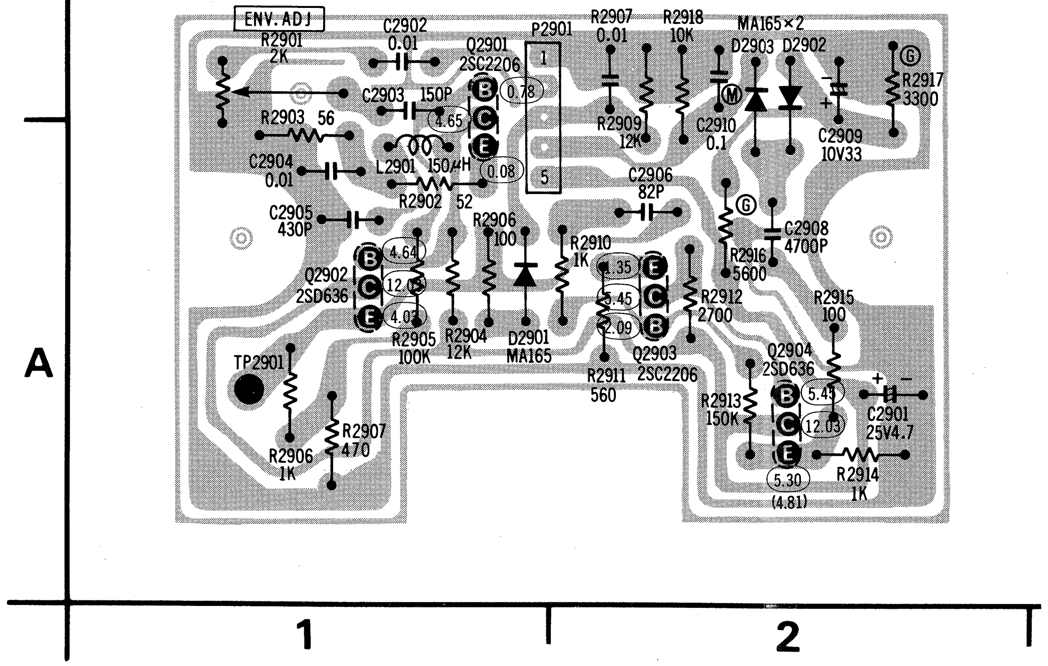
ENVELOPE AMP C.B.A. (VEP00886A)

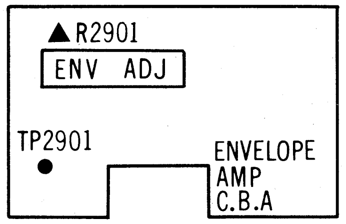
P2901 (Envelope AMP C.B.A)		
IN NO.	SIGNAL NAME	DESTINATION
1	GND	P2305-1 Search Section
2	P. ENV. In	P3006-4 Luminance & Chrominance C.B.A
3	ENV. AMP	P2305-3 Search Section
4	Drop Out AMP	P2305-2 Search Section
5	12V	P2305-5 Search Section

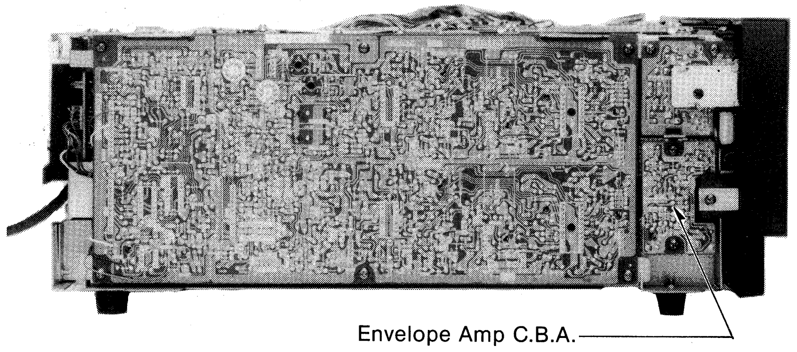
P4301 (Audio Output Select C.B.A)		
IN NO.	SIGNAL NAME	DESTINATION
1	N.R On (H)	P6403-2 Operation (II) C.B.A
2	+12V	P6018-5 System Control C.B.A
3	N.R On (L)	P4007-4 Audio & V-Dancing COMP (I) C.B.A
4	—	— —
5	Output (R)	P1505-1 Output Jack C.B
6	Input (R)	P4007-6 Audio & V-Dancing COMP (I) C.B.A
7	—	— —
8	Output (L)	P1505-5 Output Jack C.B
9	Input (L)	P4007-1 Audio & V-Dancing COMP (I) C.B.A
10	GND	— —
11	RF Audio Out	P2804-4 Piezo Drive C.B.A
12	Monitor Out	P1505-2 Output Jack C.B

P2901

P2305－1	1	GND
P3006－4	2	P. ENV. IN
P2305－3	3	ENV. AMP
P2305－2	4	DROP OUT AMP
P2305 －5	5	12V


ENV. ADJ
R2901
2K
C2902
0.01
Q2901
2SC2206
P2901
1
5
R2907
0.01
R2918
10K
MA165×2
D2903
D2902
G
R2917
3300
C2903
150P
B
C
E
0.78
4.65
0.08
M
R2903 56
R2909
12K
C2910
0.1
C2909
10V33
C2904
0.01
L2901 150μH
R2902 52
C2906
82P
C2905
430P
R2906
100
R2910
1K
R2916
5600
C2908
4700P
Q2902
2SD636
4.64
12.03
4.03
1.35
5.45
2.09
R2912
2700
R2915
100
R2905
100K
R2904
12K
D2901
MA165
Q2903
2SC2206
R2911
560
Q2904
2SD636
5.45
12.03
5.30
(4.81)
TP2901
R2906
1K
R2907
470
R2913
150K
C2901
25V4.7
R2914
1K
A
1
2

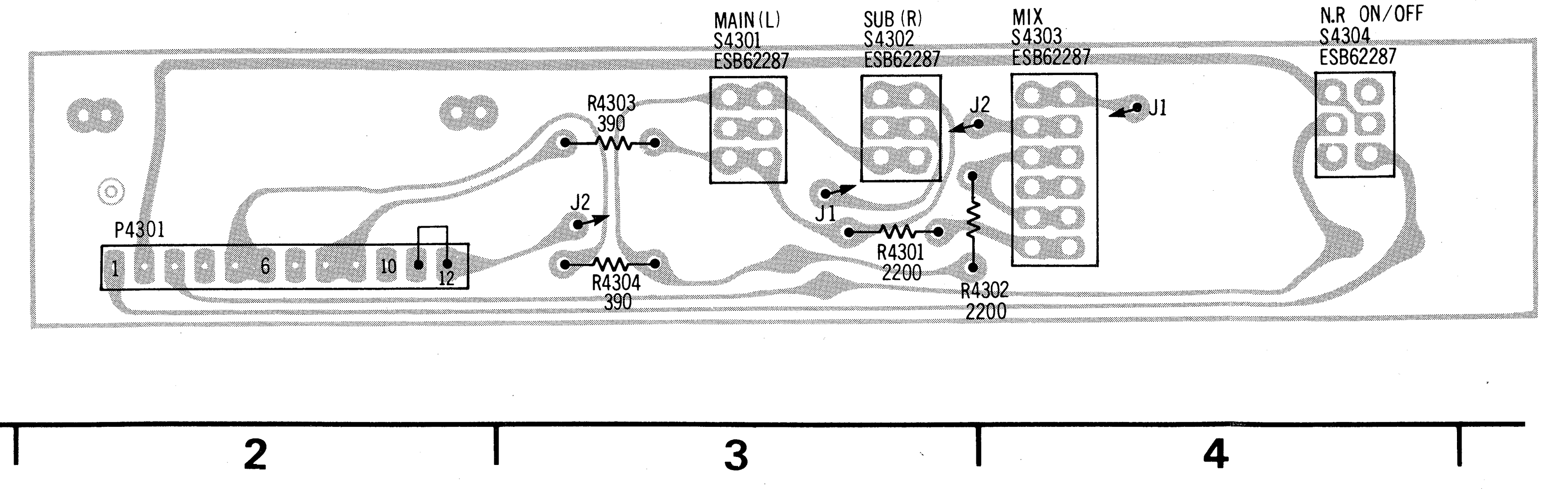

▲R2901
ENV ADJ
TP2901
ENVELOPE
AMP
C.B.A


Envelope Amp C.B.A.

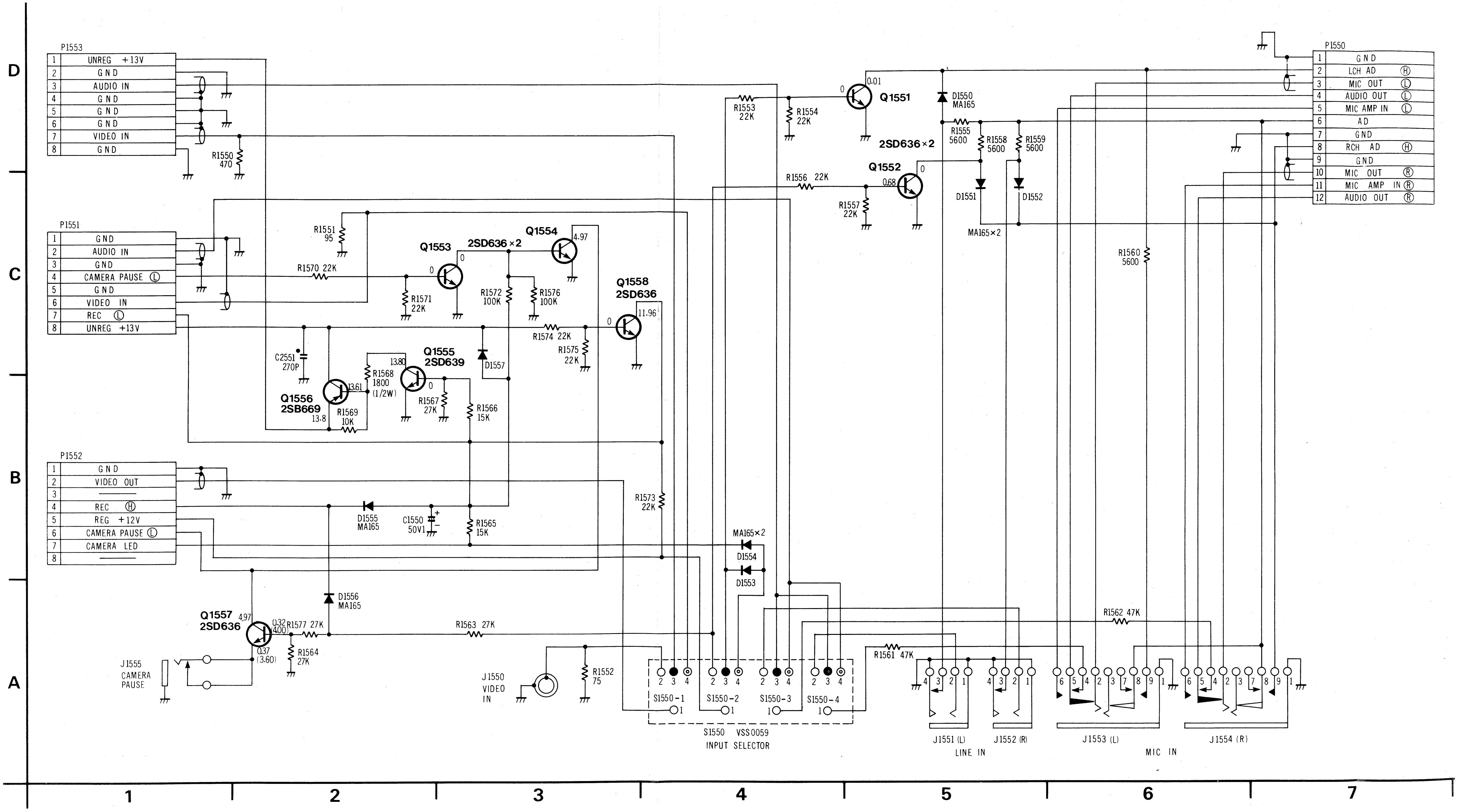
UDIO OUTPUT SELECT SW C.B.A. (VEP0480A)

P4301

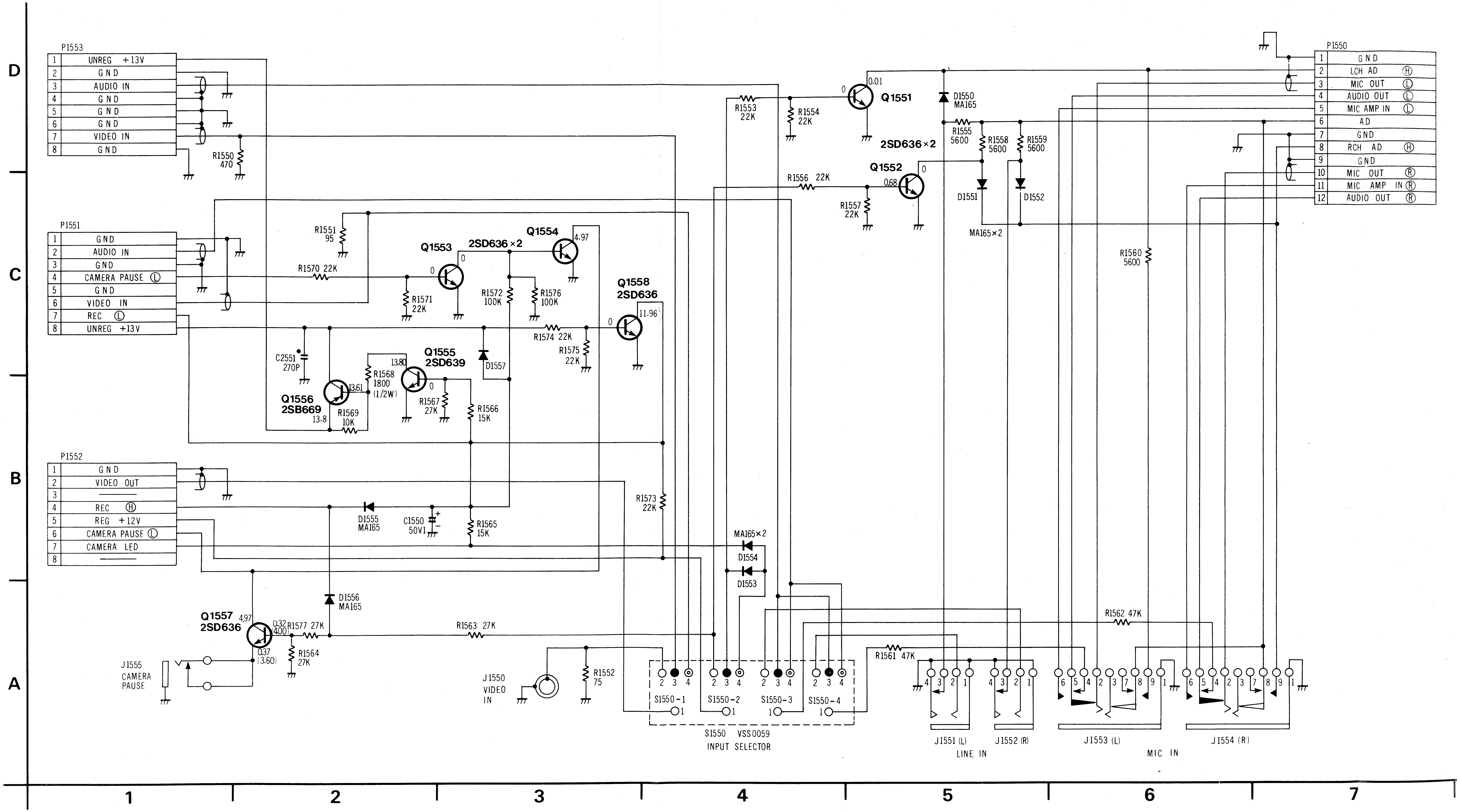
P6403－2	1	N.R ON Ⓗ
P6018－5	2	+12V
P4007－4	3	N.R ON Ⓛ
	4	――――
P1505－1	5	OUTPUT (R)
P4007－6	6	INPUT (R)
	7	――――
P1505 － 5	8	OUTPUT (L)
P4007 － 1	9	INPUT (L)
	10	GND
P2804－4	11	RF. AUDIO OUT
P1505 － 2	12	MONITOR OUT


MAIN (L)
S4301
ESB62287
SUB (R)
S4302
ESB62287
MIX
S4303
ESB62287
N.R ON/OFF
S4304
ESB62287
R4303
390
J2
J1
J2
J1
P4301
1
6
10
12
R4301
2200
R4304
390
R4302
2200
1
2
3
4

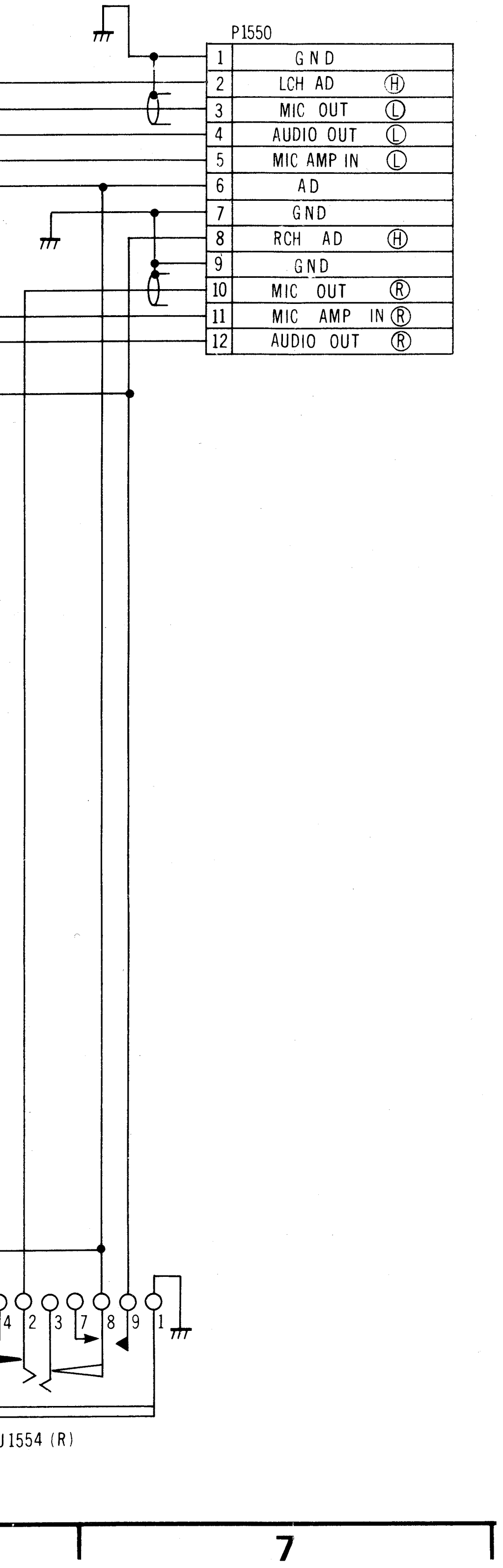
INPUT JACK SCHEMATIC DIAGRAM


D
C
B
A
1
2
3
4
5
6
7
P1553
1 UNREG +13V
2 GND
3 AUDIO IN
4 GND
5 GND
6 GND
7 VIDEO IN
8 GND
R1550 470
P1551
1 GND
2 AUDIO IN
3 GND
4 CAMERA PAUSE Ⓛ
5 GND
6 VIDEO IN
7 REC Ⓛ
8 UNREG +13V
P1552
1 GND
2 VIDEO OUT
3
4 REC Ⓗ
5 REG +12V
6 CAMERA PAUSE Ⓛ
7 CAMERA LED
8
R1551 95
R1570 22K
Q1553
2SD636×2
Q1554
4.97
R1571 22K
R1572 100K
R1576 100K
Q1558 2SD636
11.96
R1574 22K
R1575 22K
C2551 270P
Q1556 2SB669
13.61
13.8
R1569 10K
R1568 1800 (1/2W)
13.80
Q1555 2SD639
R1567 27K
R1566 15K
D1557
D1555 MA165
C1550 50V1
R1565 15K
R1573 22K
MA165×2
D1554
D1553
D1556 MA165
Q1557 2SD636
4.97
0.32 (4.00)
0.37 (3.60)
R1577 27K
R1564 27K
R1563 27K
J1555 CAMERA PAUSE
J1550 VIDEO IN
R1552 75
S1550-1
S1550-2
S1550-3
S1550-4
S1550 VSS0059 INPUT SELECTOR
R1553 22K
R1554 22K
Q1551
0.01
D1550 MA165
R1555 5600
R1558 5600
R1559 5600
2SD636×2
Q1552
0.68
R1556 22K
R1557 22K
D1551
D1552
MA165×2
R1560 5600
R1561 47K
R1562 47K
P1550
1 GND
2 LCH AD Ⓗ
3 MIC OUT Ⓛ
4 AUDIO OUT Ⓛ
5 MIC AMP IN Ⓛ
6 AD
7 GND
8 RCH AD Ⓗ
9 GND
10 MIC OUT Ⓡ
11 MIC AMP IN Ⓡ
12 AUDIO OUT Ⓡ
J1551 (L)
J1552 (R)
LINE IN
J1553 (L)
J1554 (R)
MIC IN

INPUT JACK SCHEMATIC DIAGRAM



D
C
B
A
1
2
3
4
5
6
7
P1553
1 UNREG +13V
2 GND
3 AUDIO IN
4 GND
5 GND
6 GND
7 VIDEO IN
8 GND
R1550 470
P1551
1 GND
2 AUDIO IN
3 GND
4 CAMERA PAUSE Ⓛ
5 GND
6 VIDEO IN
7 REC Ⓛ
8 UNREG +13V
P1552
1 GND
2 VIDEO OUT
3 ————
4 REC Ⓗ
5 REG +12V
6 CAMERA PAUSE Ⓛ
7 CAMERA LED
8 ————
R1551 95
R1570 22K
Q1553
2SD636×2
Q1554
4.97
0
0
R1571 22K
R1572 100K
R1576 100K
Q1558
2SD636
11.96
0
R1574 22K
R1575 22K
C2551 270P
D1557
Q1555
2SD639
13.80
0
R1568 1800 (1/2W)
13.61
Q1556
2SB669
13.8
R1569 10K
R1567 27K
R1566 15K
D1555 MA165
C1550 50V1
R1565 15K
R1573 22K
D1556 MA165
Q1557
2SD636
4.97
0.32 (4.00)
0.37 (3.60)
R1577 27K
R1564 27K
R1563 27K
J1555 CAMERA PAUSE
J1550 VIDEO IN
R1552 75
MA165×2
D1554
D1553
2 3 4
S1550-1
S1550-2
S1550-3
S1550-4
1
S1550 VSS0059
INPUT SELECTOR
R1553 22K
R1554 22K
Q1551
0
0.01
2SD636×2
Q1552
0.68
0
R1556 22K
R1557 22K
D1550 MA165
R1555 5600
R1558 5600
R1559 5600
D1551
D1552
MA165×2
R1560 5600
R1562 47K
R1561 47K
P1550
1 GND
2 LCH AD Ⓗ
3 MIC OUT Ⓛ
4 AUDIO OUT Ⓛ
5 MIC AMP IN Ⓛ
6 AD
7 GND
8 RCH AD Ⓗ
9 GND
10 MIC OUT Ⓡ
11 MIC AMP IN Ⓡ
12 AUDIO OUT Ⓡ
4 3 2 1
6 5 4 2 3 7 8 9 1
J1551 (L)
J1552 (R)
LINE IN
J1553 (L)
J1554 (R)
MIC IN


P1550
1 GND
2 LCH AD Ⓗ
3 MIC OUT Ⓛ
4 AUDIO OUT Ⓛ
5 MIC AMP IN Ⓛ
6 AD
7 GND
8 RCH AD Ⓗ
9 GND
10 MIC OUT Ⓡ
11 MIC AMP IN Ⓡ
12 AUDIO OUT Ⓡ
J1554 (R)
7

P1550 (Input Jack C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION	
1	GND	P4001-1	Audio & V-Dancing COMP (I) C.B.A
2	L CH AD (H) (CH1)	P4005-12	Audio & V-Dancing COMP (I) C.B.A
3	MIC Out (L) (CH1)	P4001-2	Audio & V-Dancing COMP (I) C.B.A
4	Audio Out (L)	P4001-6	Audio & V-Dancing COMP (I) C.B.A
5	MIC AMP In (L)	P4001-4	Audio & V-Dancing COMP (I) COMP
6	AD (H)	P6016-7	System Control C.B.A
7	—	—	—
8	R CH AD (H) (CH2)	P4005-11	Audio & V-Dancing COMP (I) C.B.A
9	GND	P4003-1	Audio & V-Dancing COMP (I) C.B.A
10	MIC Out (R) (CH2)	P4003-2	Audio & V-Dancing COMP (I) C.B.A
11	MIC AMP In (R)	P4003-4	Audio & V-Dancing COMP (I) C.B.A
12	Audio Out (R)	P4003-6	Audio & V-Dancing COMP (I) C.B.A

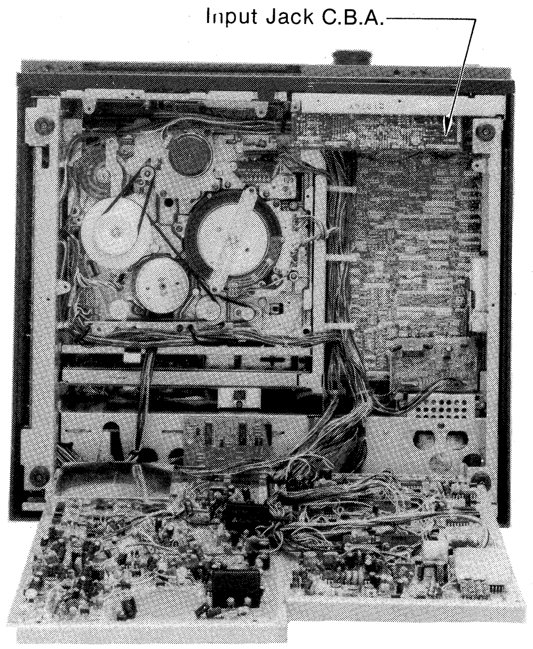
P1552 (Input Jack C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION	
1	GND	—	—
2	Video Out	P3001-2	Luminance & Chrominance C.B.A
3	REC (L)	P6015-7	System Control C.B.A
4	REC (H)	P6019-4	System Control C.B.A
5	12V	P6020-6	System Control C.B.A
6	Camera Pause	P6021-10	System Control C.B.A
7	Camera LED	P6402-1	Operation (II) C.B.A
8	—	—	—

P1553 (Input Jack C.B.A)

PIN NO.	SIGNAL NAME	DESTINATION	
1	UNREG 13V	P1007-7	Power Supply C.B.A
2	GND	P1011-1	Power Supply C.B.A
3	Audio In	P1508-4	Tuner Adaptor
4	GND	—	—
5	GND	P4006-2	Audio & V-Dancing COMP (I) C.B.A
6	GND	—	—
7	Video In	P1507-6	Tuner Adaptor
8	GND	—	—

Input Jack C.B.A.	
Q1551	A-1
Q1552	A-4
Q1553	A-2
Q1554	A-2
Q1555	A-3
Q1556	A-3
Q1557	A-3
Q1558	A-2


Input Jack C.B.A.

INPUT JACK C.B.A. (VEP00885A1)

P1550

P4001 − 1	1	GND
P4005 −12	2	L CH AD Ⓗ (CH1)
P4001 − 2	3	MIC OUT (L) CH1)
P4001 − 6	4	AUDIO OUT (L)
P4001 − 4	5	MIC AMP IN (L)
P6016 − 7	6	AD Ⓗ
	7	————
P4005 − 11	8	R CH AD Ⓗ (CH2)
P4003 − 1	9	GND
P4003 − 2	10	MIC OUT (R)(CH2)
P4003 − 4	11	MIC AMP IN (R)
P4003 − 6	12	AUDIO OUT (R)

P1551

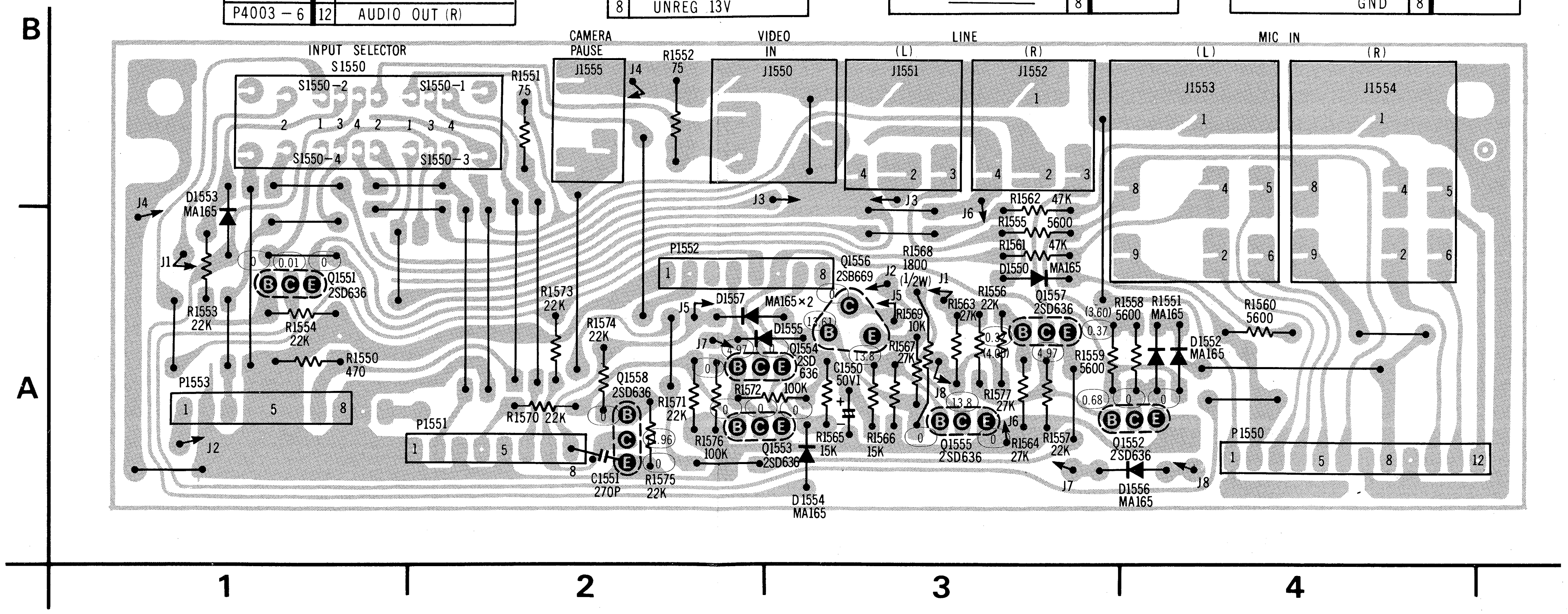
1	GND
2	AUDIO IN
3	GND
4	CAMERA PAUSE
5	GND
6	VIDEO IN
7	REC Ⓛ
8	UNREG 13V

P1552

GND	1	
VIDEO OUT	2	P3001 − 2
REC Ⓛ	3	P6015 − 7
REC Ⓗ	4	P6019 − 4
12V	5	P6020 − 6
CAMERA PAUSE	6	P6021 − 10
CAMERA LED	7	P6402 − 1
————	8	

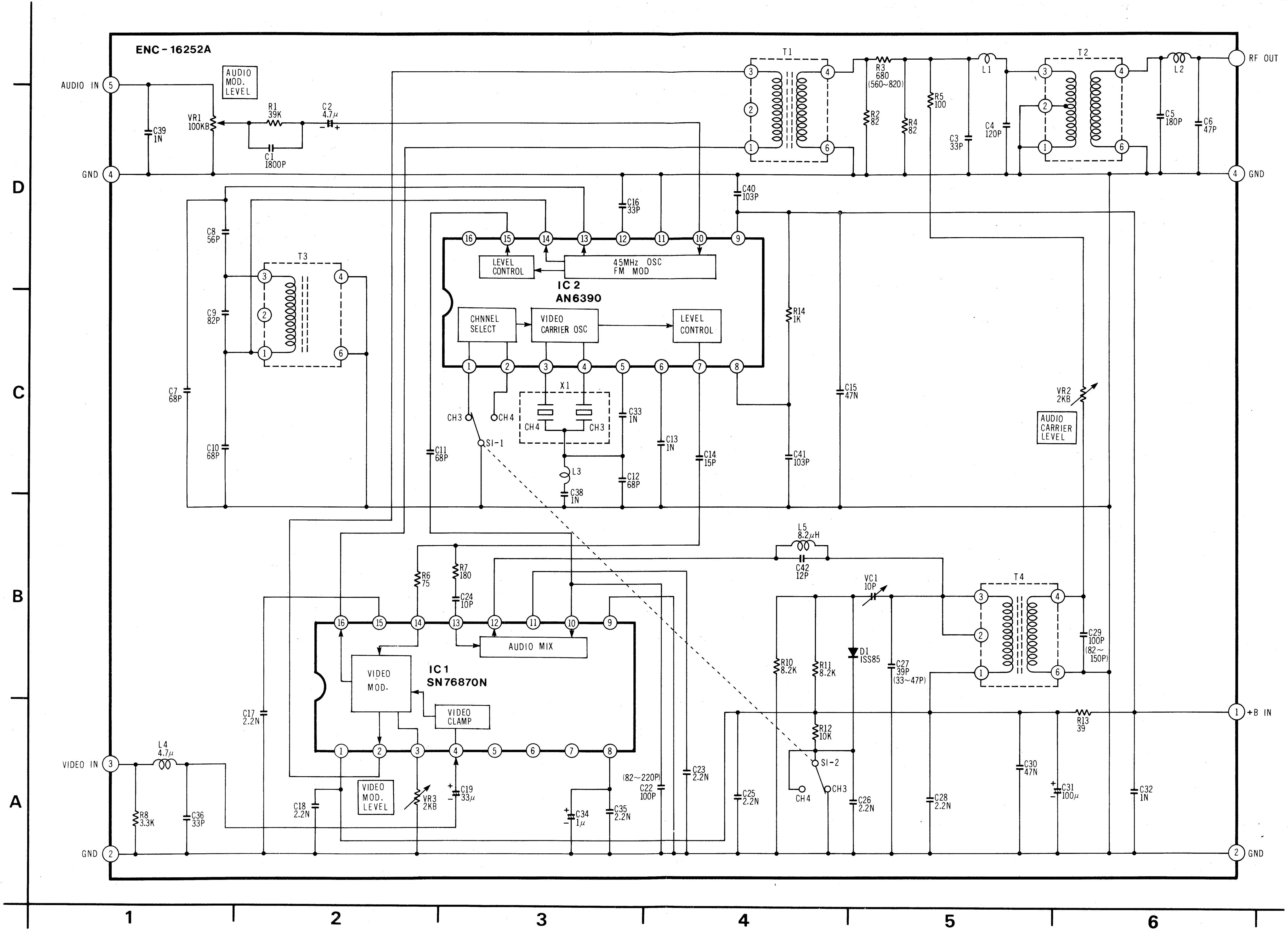
P1553

UNREG 13V	1	P1007 − 7
GND	2	P1011 − 1
AUDIO IN	3	P1508 − 4
GND	4	
GND	5	P4006 − 2
GND	6	
VIDEO IN	7	P1507 − 6
GND	8	

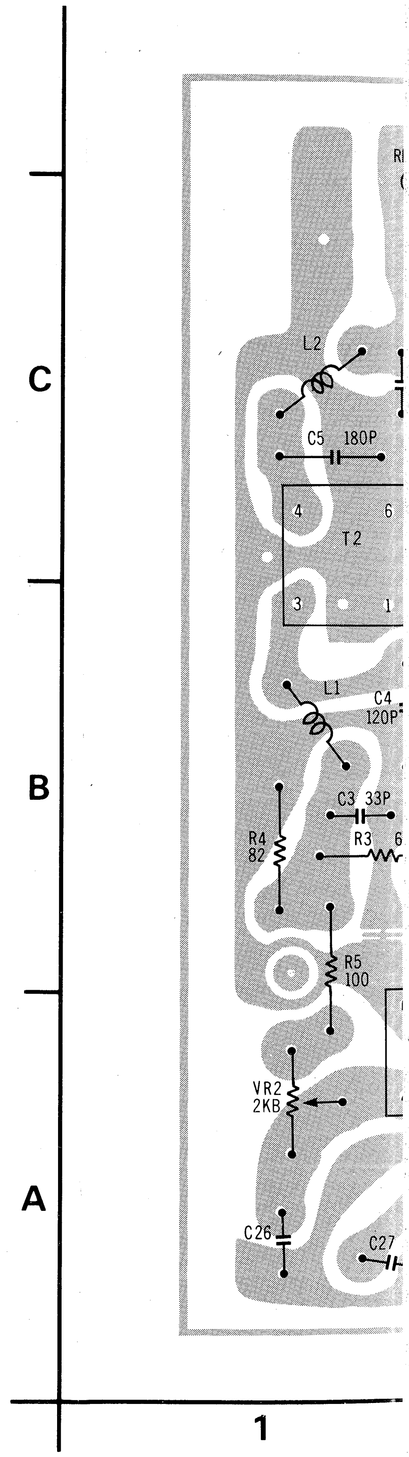

B
A
1
2
3
4
INPUT SELECTOR
S1550
S1550−2
S1550−1
S1550−4
S1550−3
CAMERA PAUSE
J1555
J4
R1551 75
R1552 75
VIDEO IN
J1550
LINE
(L)
J1551
(R)
J1552
MIC IN
(L)
J1553
(R)
J1554
D1553 MA165
Q1551 2SD636
R1553 22K
R1554 22K
R1550 470
P1553
J1
J2
J3
J5
J6
J7
J8
P1551
P1552
R1573 22K
R1574 22K
R1570 22K
Q1558 2SD636
C1551 270P
R1575 22K
D1557
MA165×2
D1555
Q1554 2SD636
Q1556 2SB669
R1568 1800 (1/2W)
R1569 10K
R1571 22K
R1572 100K
R1576 100K
Q1553 2SD636
D1554 MA165
C1550 50V1
R1565 15K
R1566 15K
R1567 27K
R1563 27K
R1556 22K
Q1555 2SD636
R1562 47K
R1555 5600
R1561 47K
D1550 MA165
Q1557 2SD636
R1577 27K
R1564 27K
R1557 22K
R1558 5600
R1551 MA165
R1559 5600
D1552 MA165
R1560 5600
Q1552 2SD636
D1556 MA165
P1550
B C E

RF CONVERTER SCHEMATIC DIAGRAM

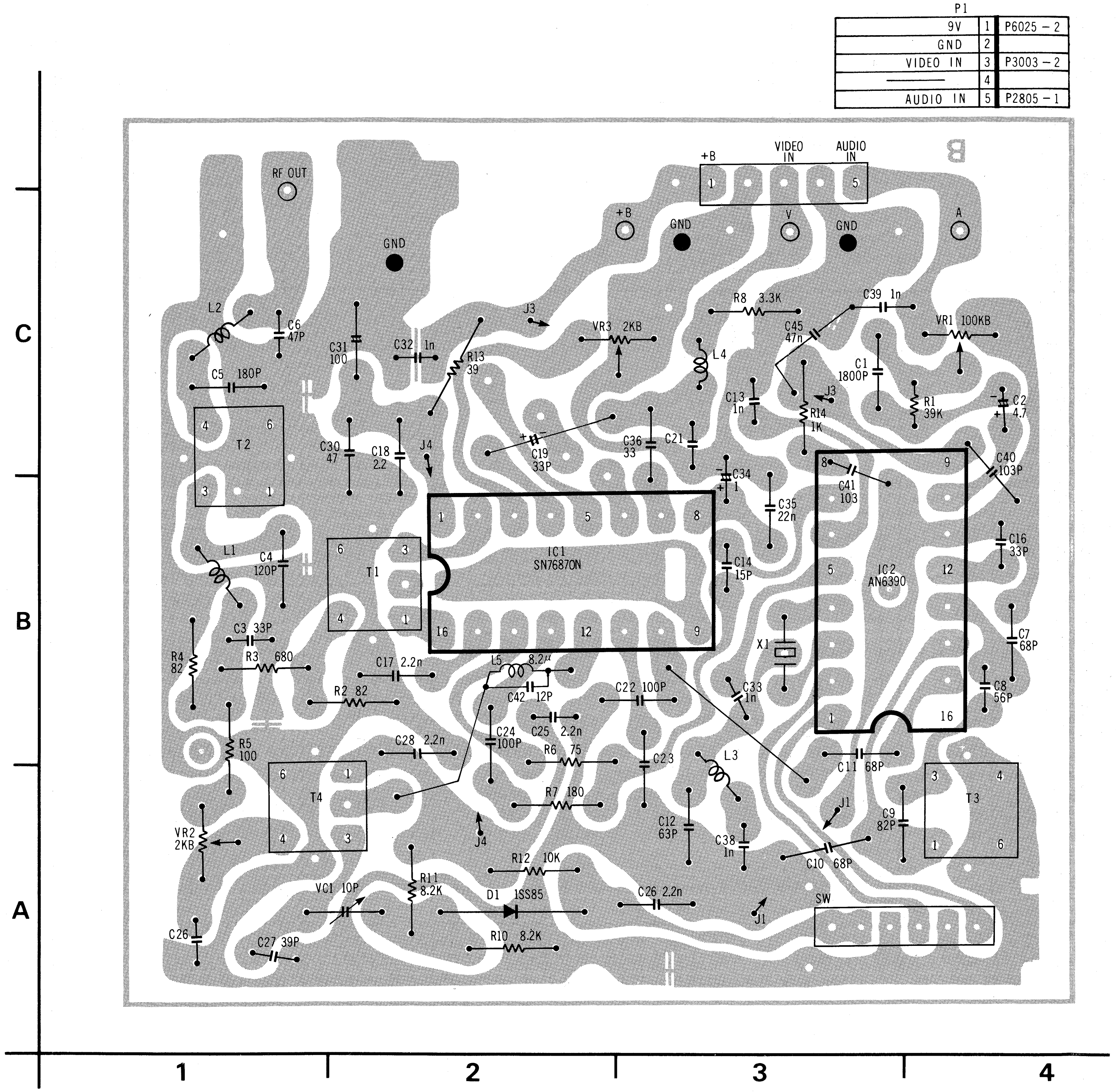
P1 (RF Converter C.B.A)			
PIN NO.	SIGNAL NAME	DESTINATION	
1	9V	P6025-2	System Control
2	GND	P3003-3	Luminance & Chrominance C.B.A
3	Video In	P3003-2	Luminance & Chrominance C.B.A
4	—	—	—
5	Audio In	P2805-1	Piezo Drive C.B.A


ENC-16252A
AUDIO IN
GND
VIDEO IN
RF OUT
+B IN
AUDIO MOD. LEVEL
VR1 100KB
R1 39K
C1 1800P
C2 4.7μ
C39 1N
T1
T2
T3
T4
R3 680 (560~820)
R2 82
R4 82
R5 100
L1
L2
C3 33P
C4 120P
C5 180P
C6 47P
C40 103P
C16 33P
C8 56P
C9 82P
C7 68P
C10 68P
IC 2
AN6390
LEVEL CONTROL
45MHz OSC FM MOD
CHNNEL SELECT
VIDEO CARRIER OSC
LEVEL CONTROL
X1
CH4
CH3
CH3
CH4
S1-1
C33 1N
C13 1N
C14 15P
C12 68P
L3
C38 1N
C11 68P
R14 1K
C15 47N
C41 103P
VR2 2KB
AUDIO CARRIER LEVEL
L5 8.2μH
C42 12P
VC1 10P
D1 1SS85
C27 39P (33~47P)
C29 100P (82~150P)
R6 75
R7 180
C24 10P
AUDIO MIX
IC1
SN76870N
VIDEO MOD.
VIDEO CLAMP
VIDEO MOD. LEVEL
VR3 2KB
C19 33μ
C17 2.2N
C18 2.2N
L4 4.7μ
R8 3.3K
C36 33P
C34 1μ
C35 2.2N
(82~220P) C22 100P
C23 2.2N
C25 2.2N
R10 8.2K
R11 8.2K
R12 10K
S1-2
CH4
CH3
C26 2.2N
C28 2.2N
C30 47N
C31 100μ
R13 39
C32 1N
A
B
C
D
1
2
3
4
5
6

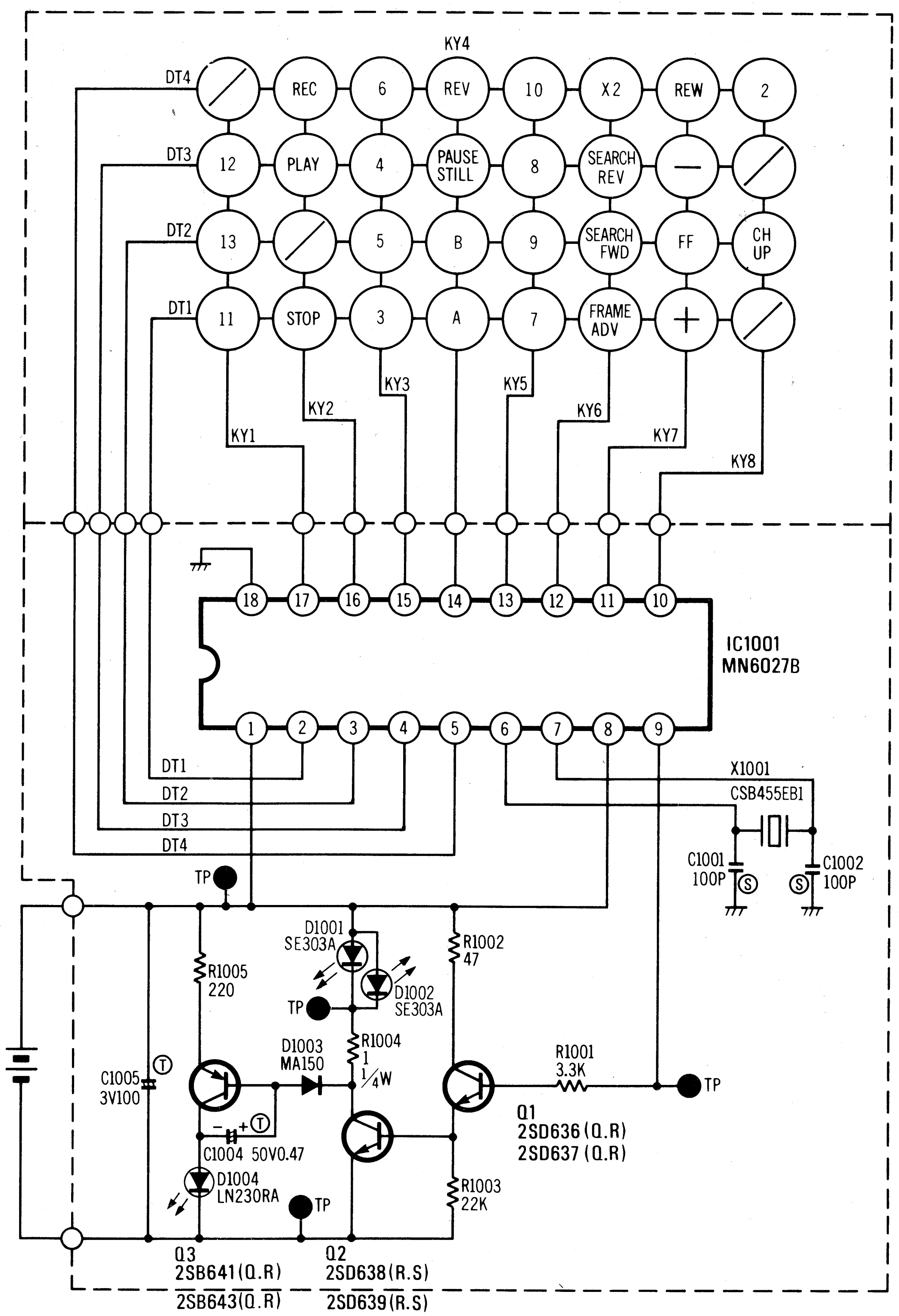
RF CONVER


L2
C5 180P
T2
4
6
3
1
L1
C4 120P
C3 33P
R3
R4 82
R5 100
VR2 2KB
C26
C27
C
B
A
1

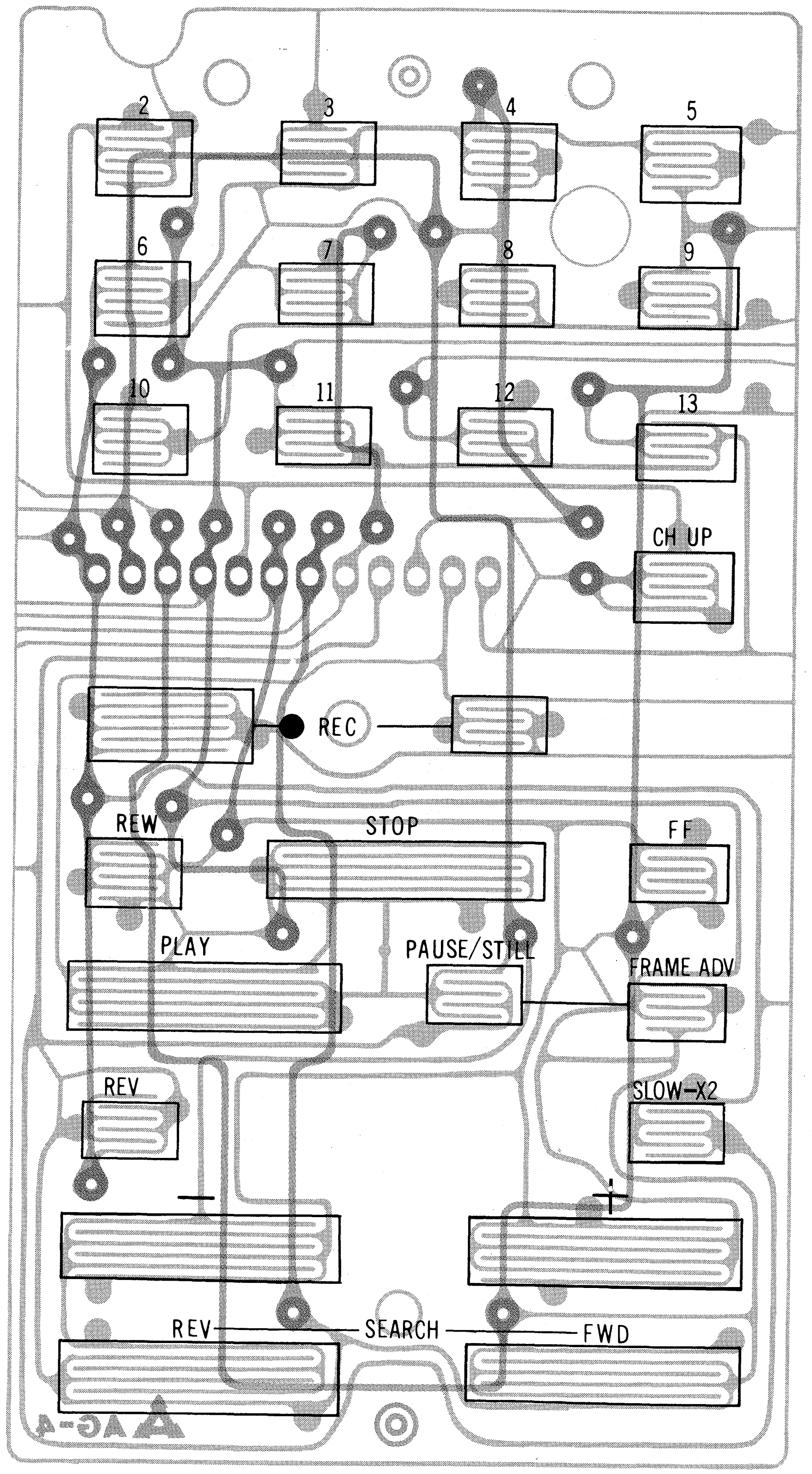
RF CONVERTER C.B.A. (ENC16252A)

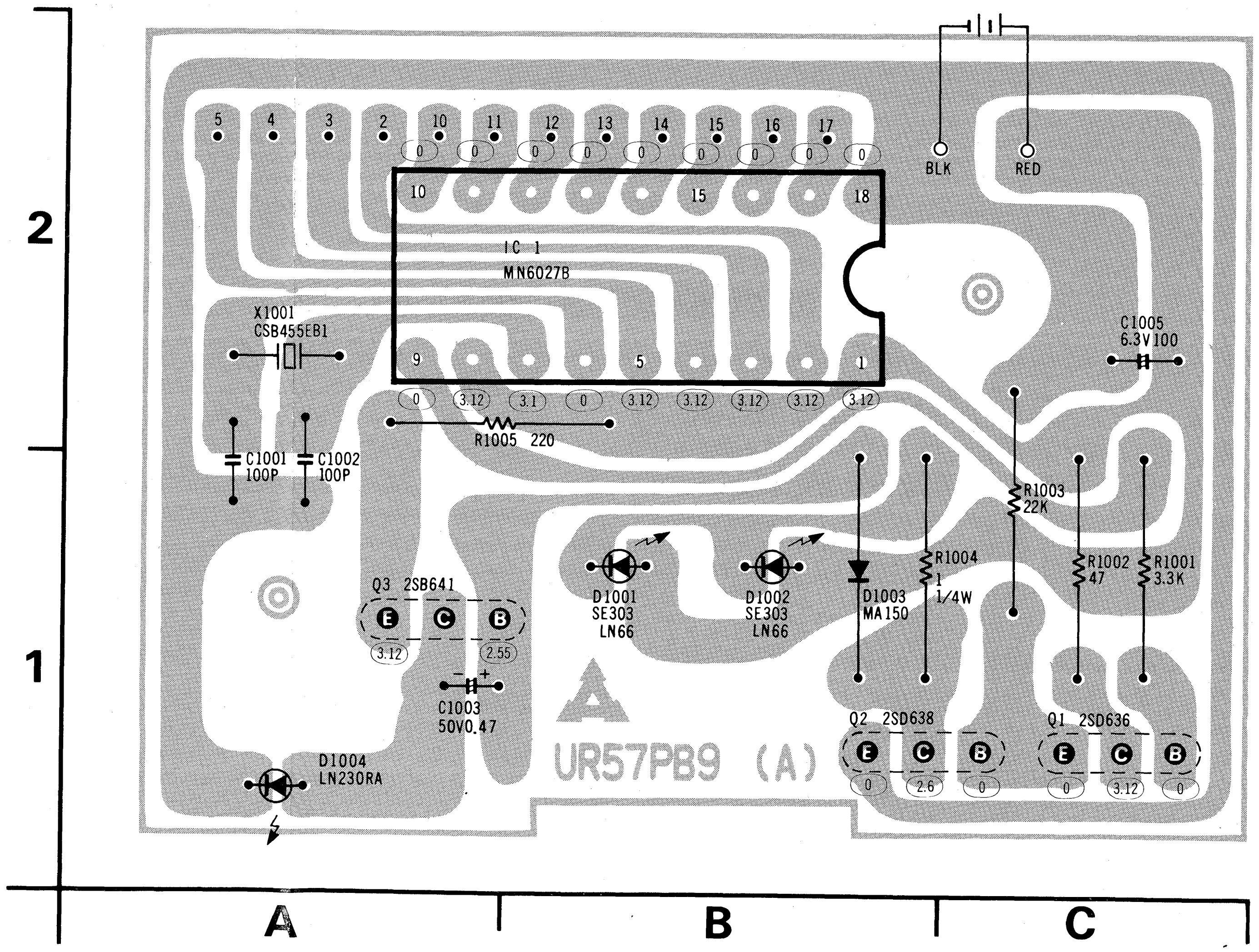

P1
9V 1 P6025 – 2
GND 2
VIDEO IN 3 P3003 – 2
4
AUDIO IN 5 P2805 – 1
RF OUT
GND
+B
VIDEO IN
AUDIO IN
V
A
L2
C6 47P
C5 180P
C31 100
C32 1n
R13 39
J3
VR3 2KB
R8 3.3K
C45 47n
C39 1n
VR1 100KB
L4
C1 1800P
R1 39K
C2 4.7
T2
C30 47
C18 2.2
J4
C19 33P
C36 33
C21
C13 1n
R14 1K
C34 1
C35 22n
C40 103P
C41 103
L1
C4 120P
T1
IC1 SN76870N
C14 15P
IC2 AN6390
C16 33P
C3 33P
R3 680
R4 82
C17 2.2n
L5 8.2μ
C42 12P
R2 82
C22 100P
X1
C33 1n
C7 68P
C8 56P
R5 100
C28 2.2n
C24 100P
C25 2.2n
R6 75
C23
L3
C11 68P
T4
R7 180
C12 63P
J1
C9 82P
T3
VR2 2KB
R12 10K
C38 1n
C10 68P
VC1 10P
R11 8.2K
D1 1SS85
C26 2.2n
SW
C26
C27 39P
R10 8.2K
A
B
C
1
2
3
4

REMOTE CONTROL (TRANSMITTER) SCHEMATIC DIAGRAM

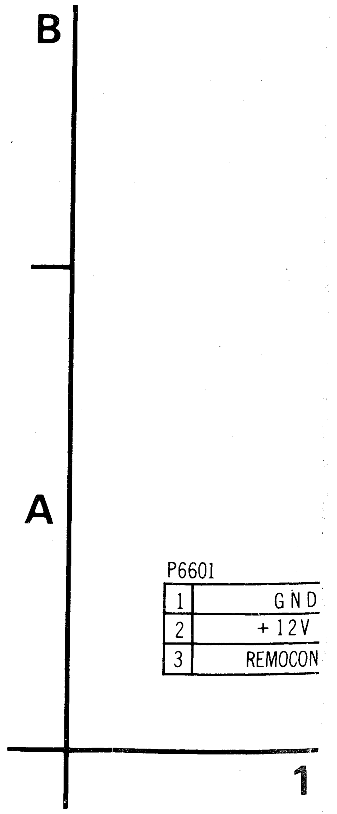

KY4
DT4
DT3
DT2
DT1
REC
6
REV
10
X2
REW
2
12
PLAY
4
PAUSE STILL
8
SEARCH REV
13
5
B
9
SEARCH FWD
FF
CH UP
11
STOP
3
A
7
FRAME ADV
KY1
KY2
KY3
KY5
KY6
KY7
KY8
IC1001 MN6027B
X1001 CSB455EB1
C1001 100P
C1002 100P
TP
D1001 SE303A
D1002 SE303A
R1005 220
R1002 47
C1005 3V100
D1003 MA150
R1004 1 ¼W
R1001 3.3K
Q1 2SD636(Q.R) 2SD637(Q.R)
C1004 50V0.47
D1004 LN230RA
R1003 22K
Q3 2SB641(Q.R) 2SB643(Q.R)
Q2 2SD638(R.S) 2SD639(R.S)

REMOTE CONTROL (TRANSMITTER) UNIT (VSQ0227)


2
3
4
5
6
7
8
9
10
11
12
13
CH UP
REC
REW
STOP
FF
PLAY
PAUSE/STILL
FRAME ADV
REV
SLOW-X2
−
+
REV
SEARCH
FWD
AG-4


5
4
3
2
10
11
12
13
14
15
16
17
BLK
RED
10
15
18
IC 1
MN6027B
9
5
1
X1001
CSB455EB1
C1005
6.3V100
0
3.12
3.1
0
3.12
3.12
3.12
3.12
3.12
R1005 220
C1001 100P
C1002 100P
R1003 22K
R1004 1 1/4W
R1002 47
R1001 3.3K
D1001 SE303 LN66
D1002 SE303 LN66
D1003 MA150
Q3 2SB641
E
C
B
3.12
2.55
C1003 50V0.47
D1004 LN230RA
UR57PB9 (A)
Q2 2SD638
E
C
B
0
2.6
0
Q1 2SD636
E
C
B
0
3.12
0
2
1
A
B
C

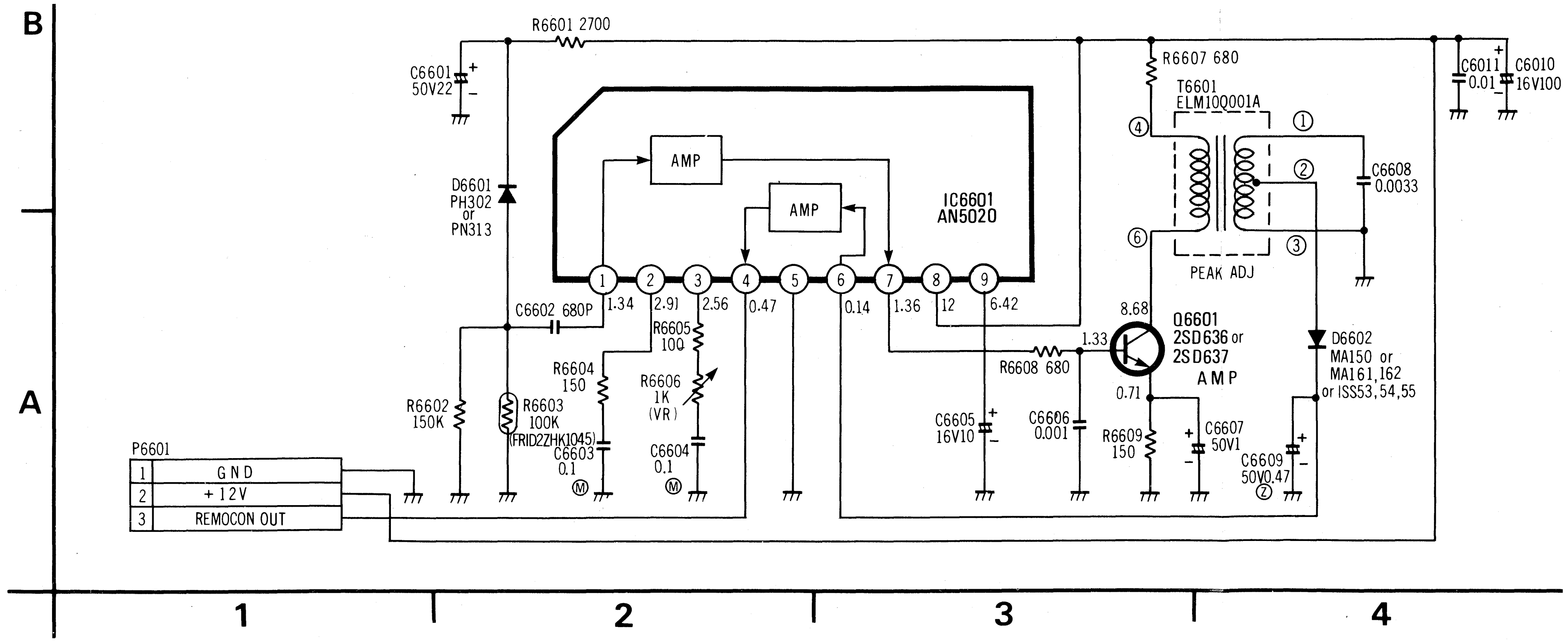
REMOTE C

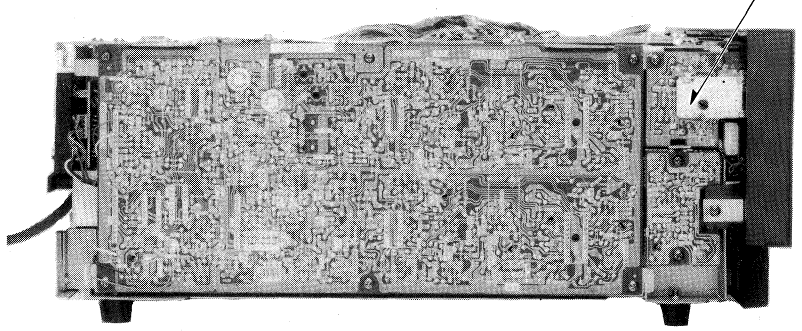


P6601

1	GND
2	+12V
3	REMOCON

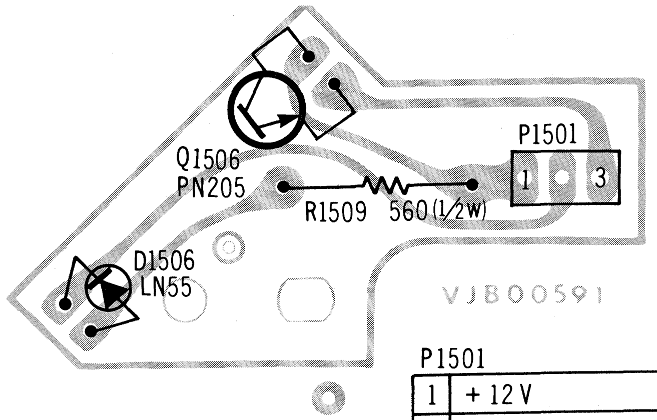
REMOTE CONTROL (RECIEVER) SCHEMATIC DIAGRAM


B
A
1
2
3
4
P6601
1 GND
2 +12V
3 REMOCON OUT
R6601 2700
C6601 50V22
D6601 PH302 or PN313
C6602 680P
R6602 150K
R6603 100K (FRID2ZHK1045)
R6604 150
C6603 0.1
Ⓜ
R6605 100
R6606 1K (VR)
C6604 0.1
Ⓜ
AMP
AMP
IC6601 AN5020
1.34
2.91
2.56
0.47
0.14
1.36
12
6.42
C6605 16V10
C6606 0.001
R6608 680
1.33
8.68
0.71
Q6601 2SD636 or 2SD637 AMP
R6609 150
C6607 50V1
R6607 680
T6601 ELM10Q001A
④
⑥
①
②
③
PEAK ADJ
C6608 0.0033
D6602 MA150 or MA161,162 or ISS53,54,55
C6609 50V0.47
Ⓩ
C6011 0.01
C6010 16V100


Remote Control (Reciever) C.B.A.

P6601 (Remote Control Reciever C.B.A)		
PIN NO.	SIGNAL NAME	DESTINATION
1	GND	P6305-2 Operation (I) C.B.A
2	12V	P6305-3 Operation (I) C.B.A
3	Remote Control Out	P6305-1 Operation (I) C.B.A

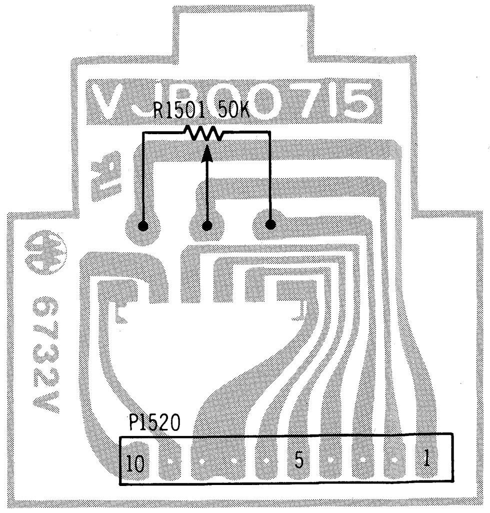
TAPE SLACK SENSOR BOARD (VJB00591)


Q1506
PN205
R1509 560(1/2W)
P1501
1
3
D1506
LN55
VJB00591

P1501

1	+12V
2	GND
3	SENSOR SIGNAL

SPEED SELECT C.B.A. (VEP00715A1)


VJB00715
R1501 50K
6732V
P1520
10
5
1

P1520

1	SLOW VR
2	SLOW VR
3	SLOW VR
4	-1/×2
5	SLOW SW
6	CUE SW
7	COMMON
8	COMMON
9	REVIEW SW
10	-1/×1 SW

CONNECTION C.B. (VJB00720)

P1516

1	LED (+)
2	LED (-)

P1519

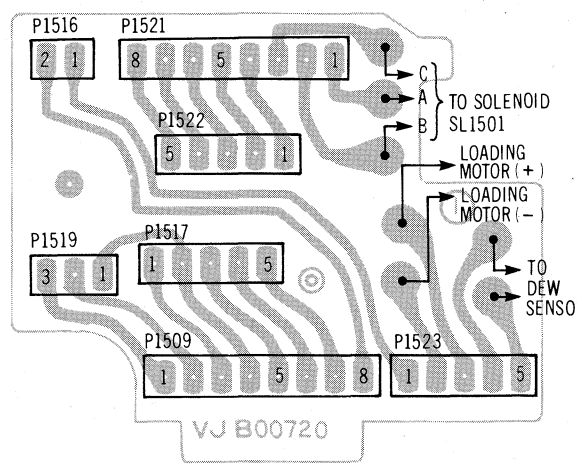
1	GND
2	12V
3	TAPE SLACK

P1521

1	A SOL
2	B SOL
3	C SOL
4	GND
5	MR HEAD
6	MR HEAD
7	GND
8	CTL

P1522

1	GND
2	MR HEAD
3	MR HEAD
4	GND
5	CTL


P1516
2 1
P1521
8 5 1
C
A
B
TO SOLENOID
SL1501
P1522
5 1
LOADING MOTOR (+)
LOADING MOTOR (-)
P1519
3 1
P1517
1 5
TO DEW SENSOR
P1509
1 5 8
P1523
1 5
VJB00720

P1517

1	12V
2	GND
3	REEL SENSOR
4	REEL SENSOR (IN)
5	REEL SENSOR (IN)

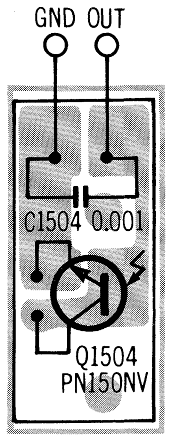
P1509

1	TAPE SLACK
2	12V
3	12V (SW)
4	GND
5	S.REEL
6	T.REEL
7	T.REEL
8	LED (-)

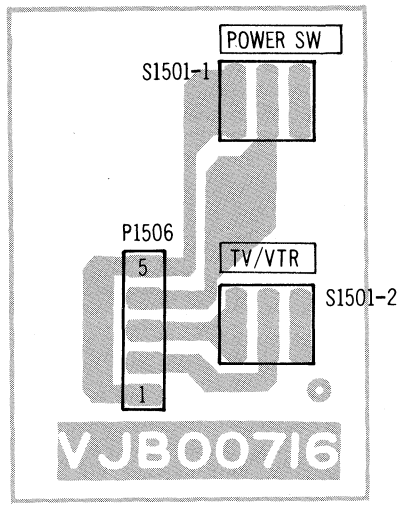
P1523

1	LED
2	LOAD M (-)
3	LOAD M (+)
4	DEW SENSOR
5	DEW SENSOR (GND)

TAKEUP PHOTO TR C.B. (VJB00636)


GND
OUT
C1504 0.001
Q1504
PN150NV

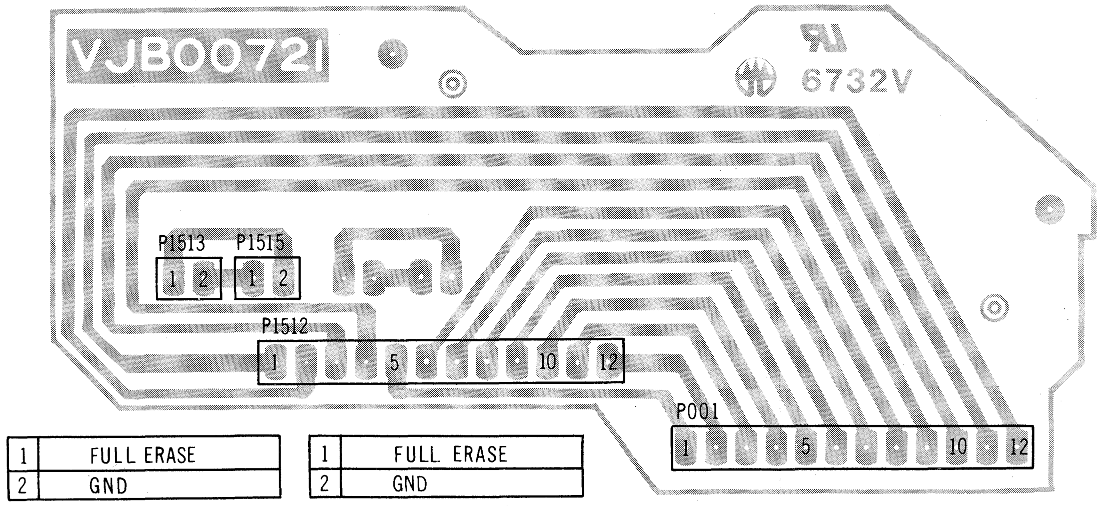
POWER SWITCH C.B.A. (VEP00716A1)


POWER SW
S1501-1
P1506
5
1
TV/VTR
S1501-2
VJB00716

P1506

1	NON SW 12V
2	VTR SW 1
3	VTR SW 2 (GND)
4	POWER SW
5	NON SW 12V

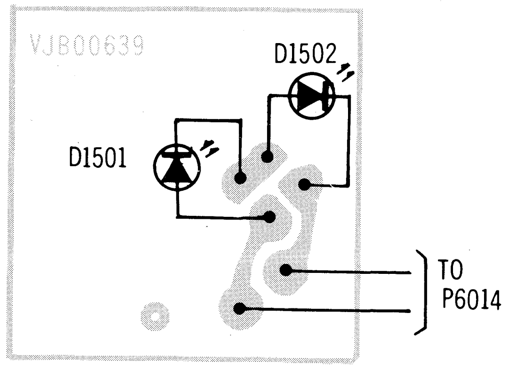
CYLINDER CONNECTION C.B.A. (VEP00721B)


VJB00721
6732V
P1513
1 2
P1515
1 2
P1512
1 5 10 12
P001
1 5 10 12

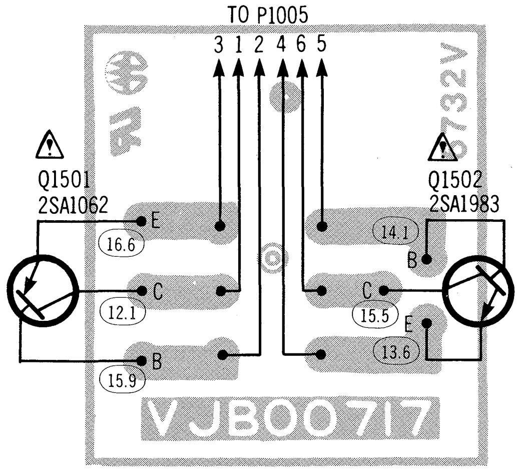
1	FULL ERASE
2	GND

1	FULL ERASE
2	GND

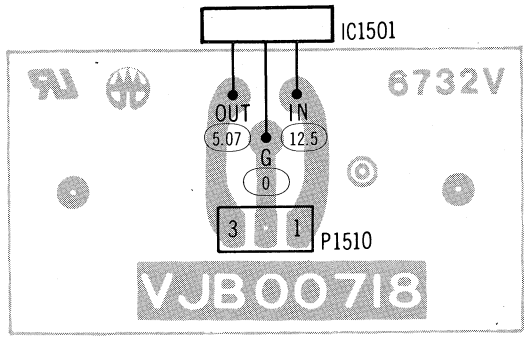
SENSOR LED C.B. (VJB00639)


VJB00639
D1502
D1501
TO
P6014

POWER TR CONNECTION C.B.A. (VEP00717A1)


TO P1005
3 1 2 4 6 5
Q1501
2SA1062
Q1502
2SA1983
6732V
E
C
B
16.6
12.1
15.9
14.1
15.5
13.6
B
C
E
VJB00717

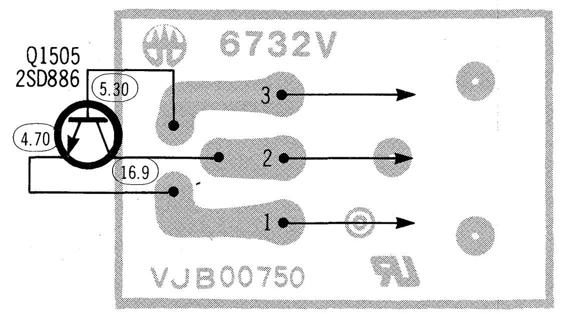
PEG. IC CONNECTION C.B.A. (VEP00718A1)


IC1501
6732V
OUT
5.07
IN
12.5
G
0
3
1
P1510
VJB00718

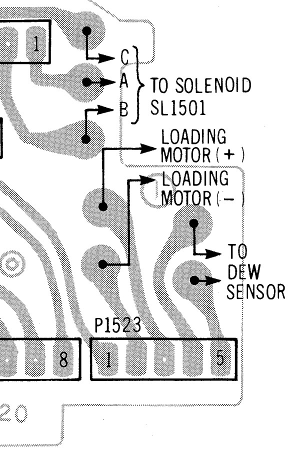
P1510

1	UNREG 15V
2	GND
3	5V REG OUT

SYSTEM CONTROL POWER TR (VJB00750)


Q1505
2SD886
5.30
4.70
16.9
6732V
3
2
1
VJB00750

. (VJB00720)


1
C
A
B
TO SOLENOID
SL1501
LOADING
MOTOR (+)
LOADING
MOTOR (−)
TO
DEW
SENSOR
P1523
8
1
5
20

P1517

1	12V
2	GND
3	REEL SENSOR
4	REEL SENSOR (IN)
5	REEL SENSOR (IN)

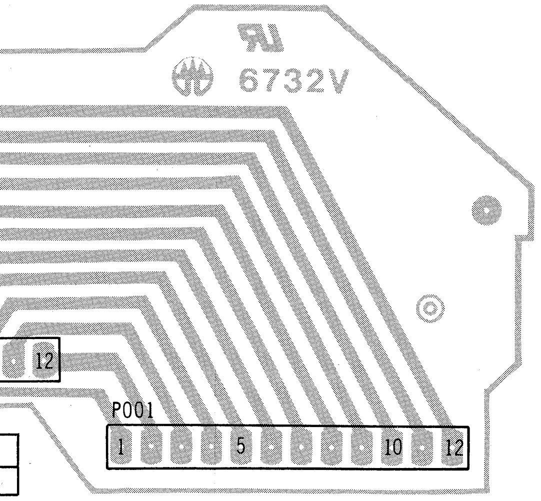
P1509

1	TAPE SLACK
2	12V
3	12V (SW)
4	GND
5	S. REEL
6	T. REEL
7	T. REEL
8	LED (−)

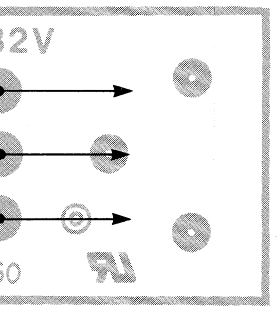
P1523

1	LED
2	LOAD M (−)
3	LOAD M (+)
4	DEW SENSOR
5	DEW SENSOR (GND)

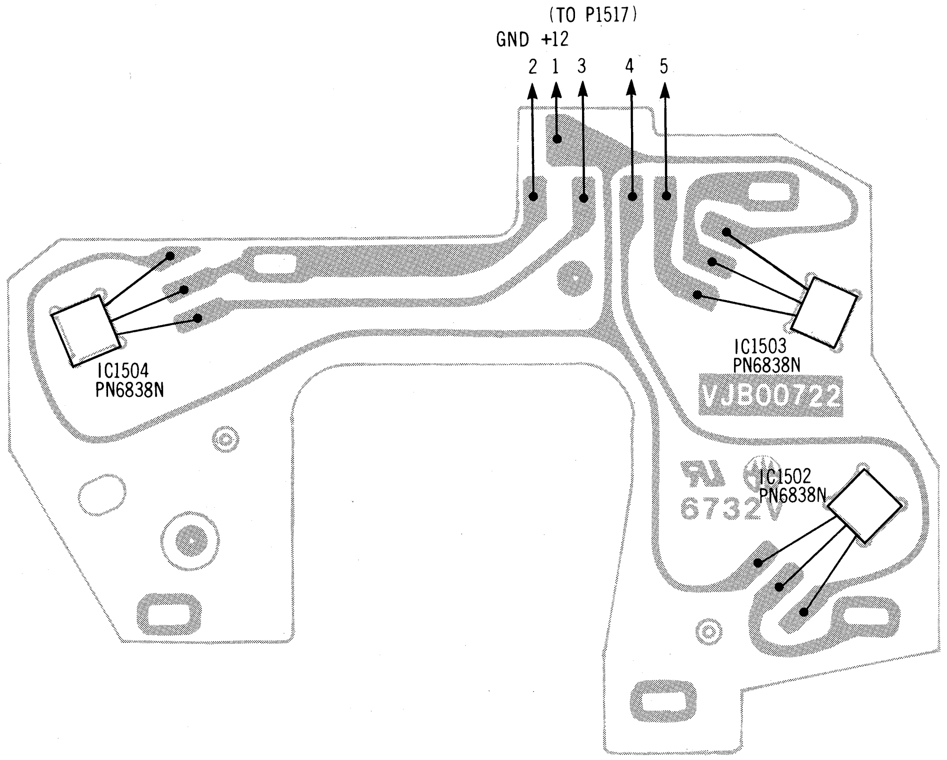
ON C.B.A. (VEP00721B)


6732V
12
P001
1
5
10
12

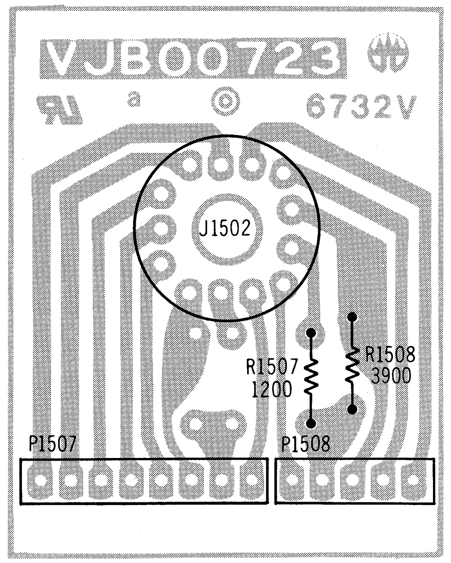
POWER TR (VJB00750)



REEL SENSOR C.B. (VJB00722)

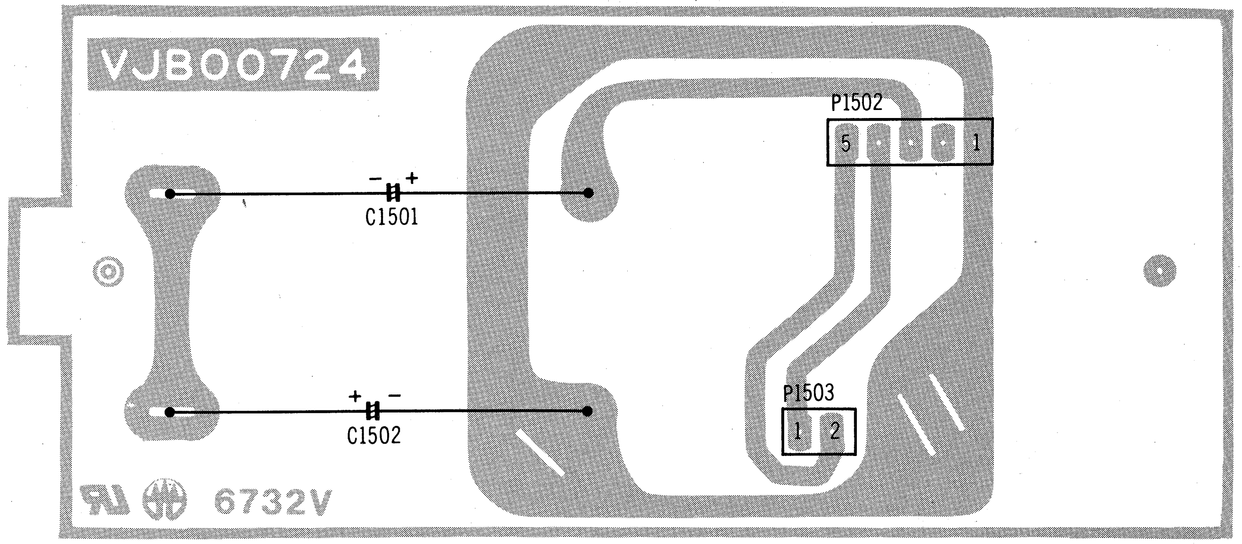

(TO P1517)
GND +12
2 1 3 4 5
IC1504
PN6838N
IC1503
PN6838N
VJB00722
IC1502
PN6838N
6732V

TUNER ADAPTOR CONNECTION (VEP00723B)

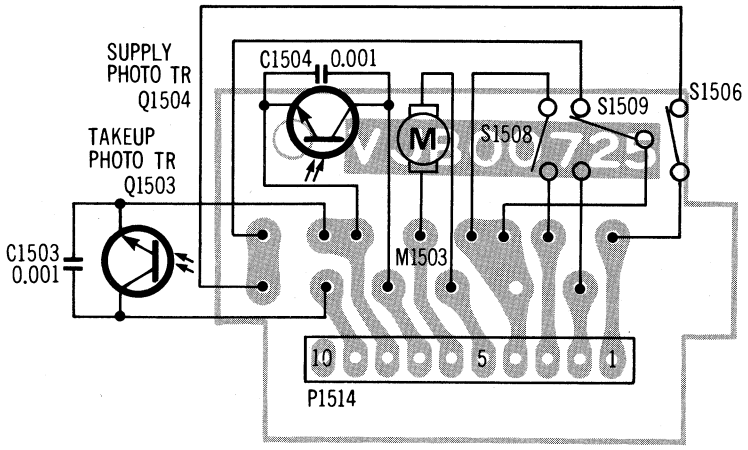

VJB00723
a
6732V
J1502
R1507
1200
R1508
3900
P1507
P1508

1	TIMER SET
2	
3	
4	18V
5	GND
6	VIDEO OUT
7	REC/PLAY Ⓗ
8	TIMER ON

CAPACITOR & ANTENNA CONNECTION C.B.A (VEP00724)


VJB00724
P1502
5
1
C1501
C1502
P1503
1
2
6732V

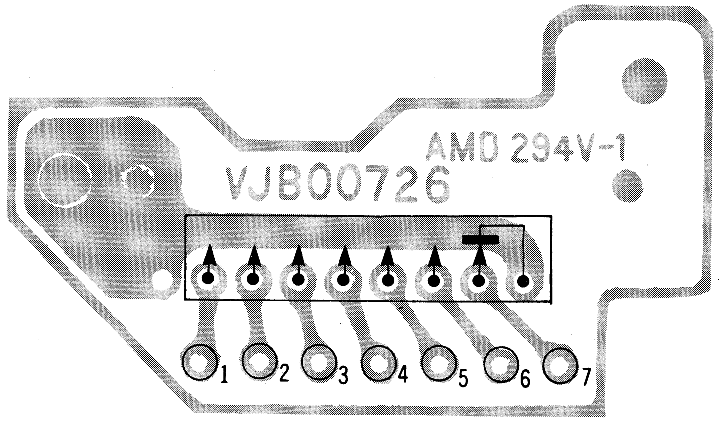
CASSETTE UP C.B. (VJB00725)


SUPPLY
PHOTO TR
Q1504
TAKEUP
PHOTO TR
Q1503
C1504 0.001
C1503
0.001
M
M1503
S1508
S1509
S1506
VJB00725
10
5
1
P1514

P1514

1	CASSETTE IN Ⓛ
2	CASSETTE UP Ⓛ
3	CASSETTE DOWN Ⓗ
4	GND
5	LOADING M −
6	LOADING M +
7	TAKEUP PHOTO TR
8	GND
9	SUPPLY PHOTO TR
10	

MODE SELECT SWITCH C.B. (VJB00726)


AMD 294V-1
VJB00726
1
2
3
4
5
6
7

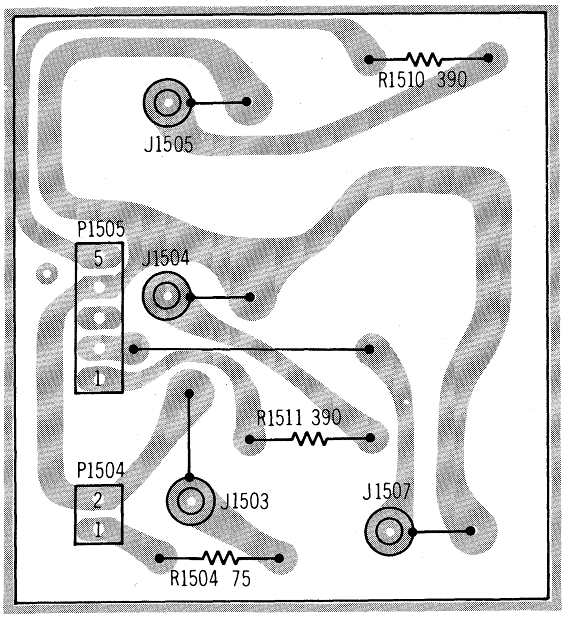
OUTPUT JACK C.B. (VJB00895)

P1505

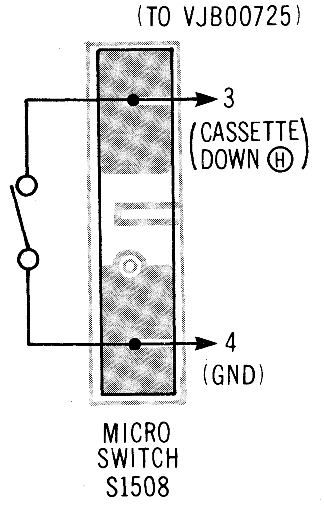
1	AUDIO CH2 (R)
2	MONITOR OUT
3	———
4	GND
5	AUDIO CH1 (L)

P1504

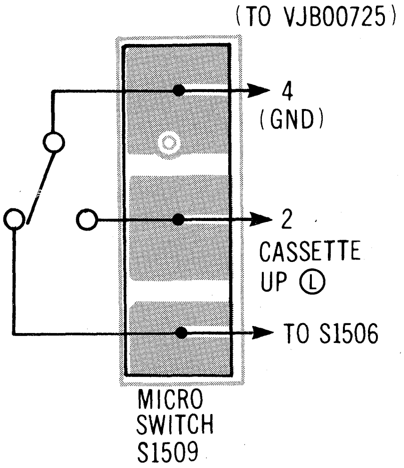
1	VIDEO IN
2	GND


R1510 390
J1505
P1505
5
J1504
1
R1511 390
P1504
2
1
J1503
J1507
R1504 75

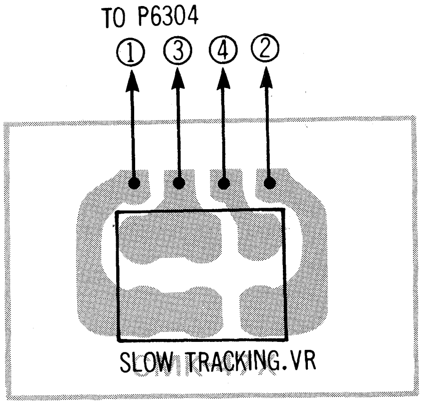
MICRO SWITCH (1) C.B. (VJB00727)

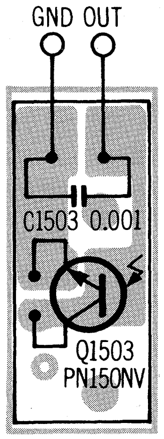

(TO VJB00725)
3
(CASSETTE DOWN Ⓗ)
4
(GND)
MICRO
SWITCH
S1508

MICRO SWITCH (2) C.B. (VJB00728)


(TO VJB00725)
4
(GND)
2
CASSETTE
UP Ⓛ
TO S1506
MICRO
SWITCH
S1509

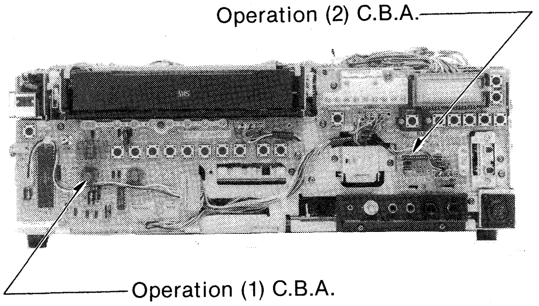
SLOW TRACKING CONTROL C.B.A. (VEP00729A)


TO P6304
①
③
④
②
SLOW TRACKING.VR

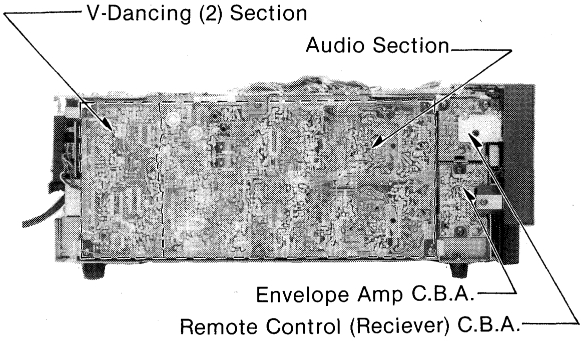

GND OUT
C1503 0.001
Q1503
PN150NV

CIRCUIT BOARD LOCATION

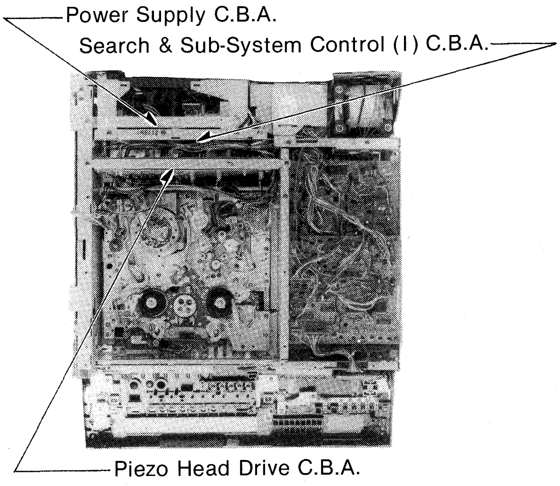
FRONT VIEW


Operation (2) C.B.A.
Operation (1) C.B.A.

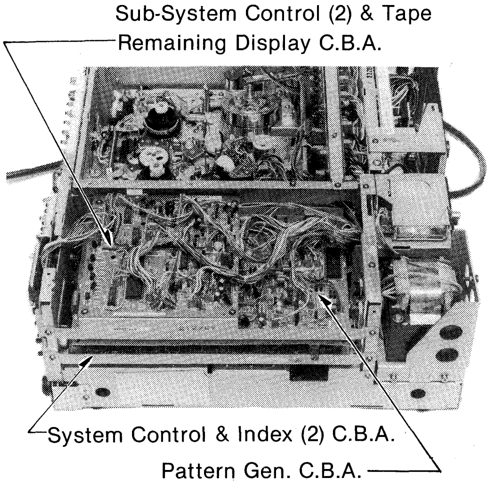
LEFT SIDE VIEW


V-Dancing (2) Section
Audio Section
Envelope Amp C.B.A.
Remote Control (Reciever) C.B.A.

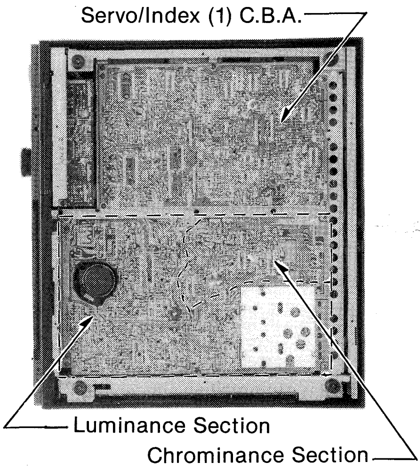
TOP VIEW I


Power Supply C.B.A.
Search & Sub-System Control (I) C.B.A.
Piezo Head Drive C.B.A.

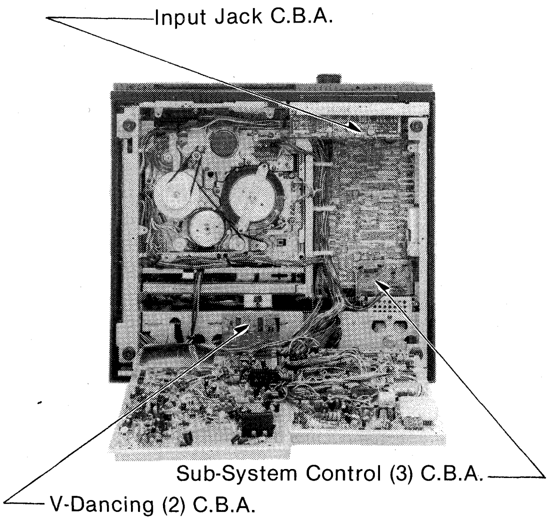
TOP VIEW II


Sub-System Control (2) & Tape Remaining Display C.B.A.
System Control & Index (2) C.B.A.
Pattern Gen. C.B.A.

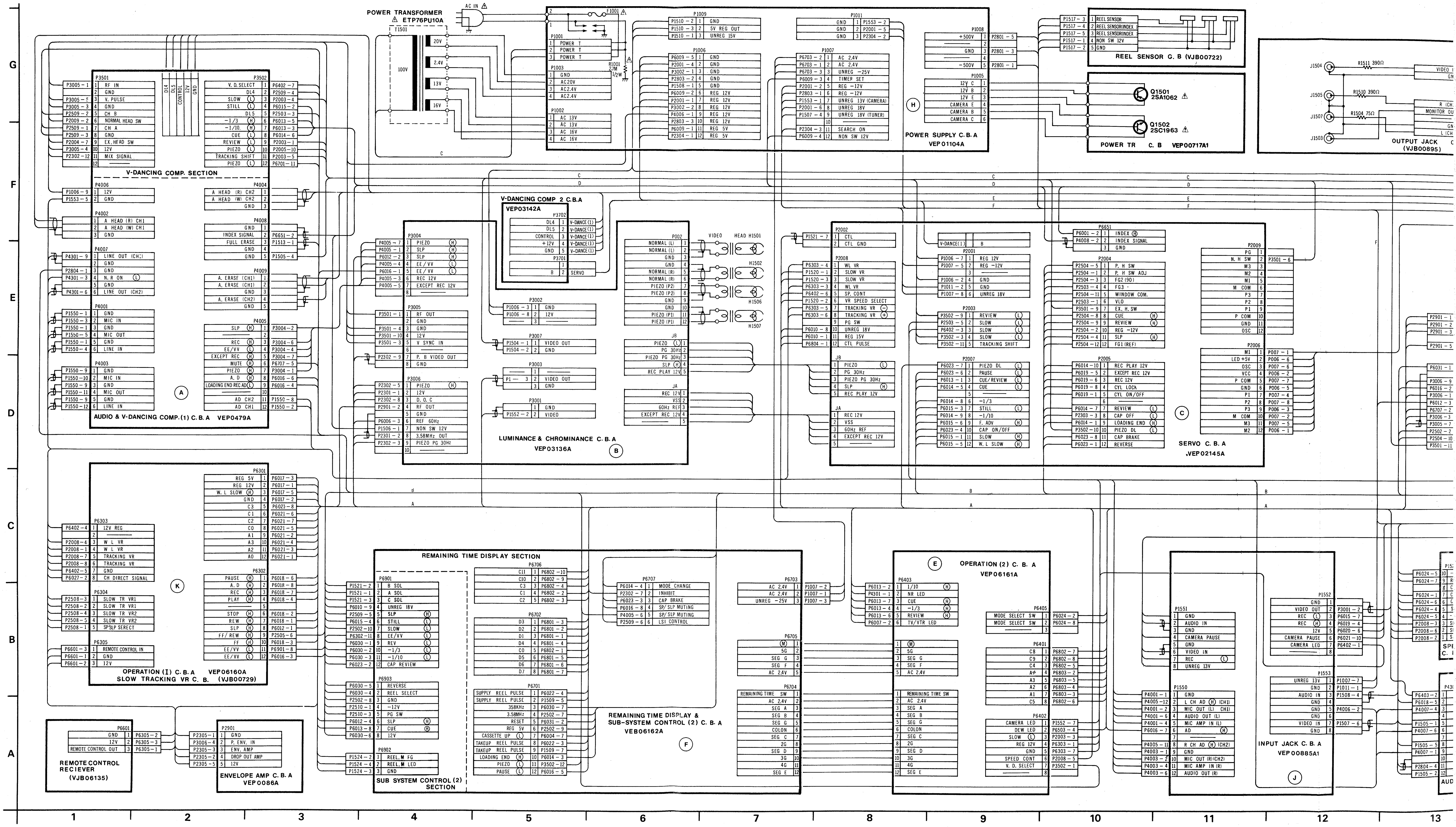
BOTTOM VIEW I


Servo/Index (1) C.B.A.
Luminance Section
Chrominance Section

BOTTOM VIEW II


Input Jack C.B.A.
Sub-System Control (3) C.B.A.
V-Dancing (2) C.B.A.

INTERCONNECTION SCHEMATIC DIAGRAM


POWER TRANSFORMER
⚠ ETP76PU10A
T1501
AC IN ⚠
100V
20V
2.4V
13V
16V
F1001 ⚠
R1001 2.7M 1/2W
P1001
POWER T
P1003
GND
AC20V
AC2.4V
P1002
AC 13V
AC 16V
P1009
5V REG OUT
UNREG 15V
P1006
REG 12V
REG 5V
P1011
P1007
AC 2.4V
UNREG -25V
TIMER SET
REG -12V
UNREG 13V (CAMERA)
UNREG 18V
UNREG 18V (TUNER)
SEARCH ON
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P1008
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-500V
P1005
12V C
12V B
12V E
CAMERA E
CAMERA B
CAMERA C
H
POWER SUPPLY C.B.A
VEP01104A
REEL SENSOR
REEL SENSOR(INDEX)
NON SW 12V
REEL SENSOR C. B (VJB00722)
Q1501
2SA1062 ⚠
Q1502
2SC1963 ⚠
POWER TR C. B VEP00717A1
J1504
R1511 390Ω
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R1510 390Ω
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R1504 75Ω
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MONITOR OU
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(VJB00895)
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-1/10
CUE
REVIEW
PIEZO
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A HEAD (W) CH2
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P4005
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H1506
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J8
PIEZO
PG 30Hz
PIEZO PG 30Hz
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JA
REC 12V
VSS
60Hz REF
EXCEPT REC 12V
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WL VR
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TRACKING VR
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UNREG 18V
REG 15V
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OSC
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LED +5V
VCC
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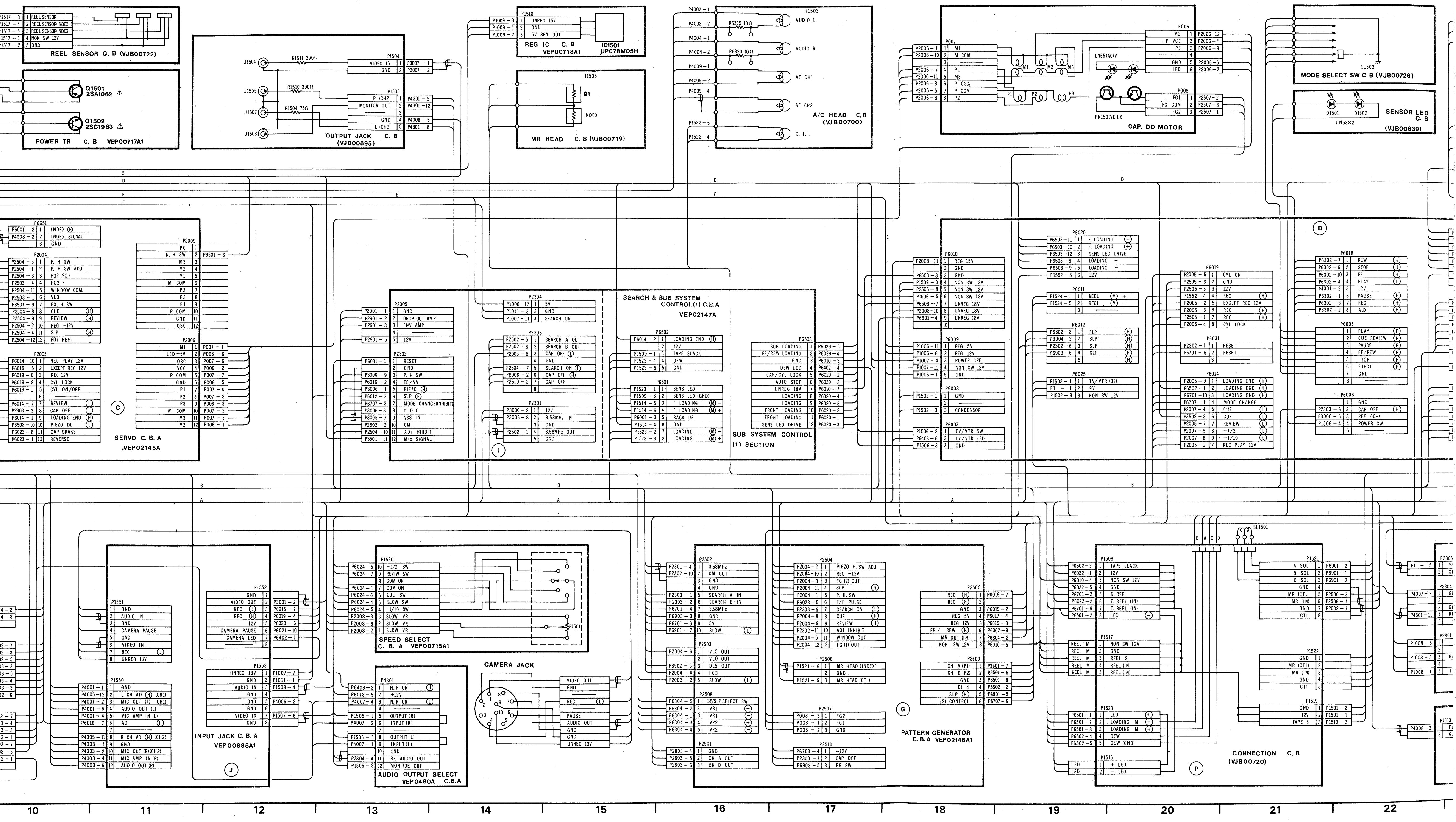
REEL SENSOR C. B (VJB00722)
POWER TR C. B VEP00717A1
Q1501 2SA1062
Q1502 2SC1963
OUTPUT JACK C. B (VJB00895)
J1504
J1505
J1507
J1503
R1511 390Ω
R1510 390Ω
R1504 75Ω
REG IC C. B VEP00718A1
IC1501 μPC78M05H
MR HEAD C. B (VJB00719)
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INDEX
A/C HEAD C.B (VJB00700)
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AUDIO R
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AE CH2
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P006
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LN55(AC)V
PN150(VE)LX
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INPUT JACK C. B. A VEP00885A1
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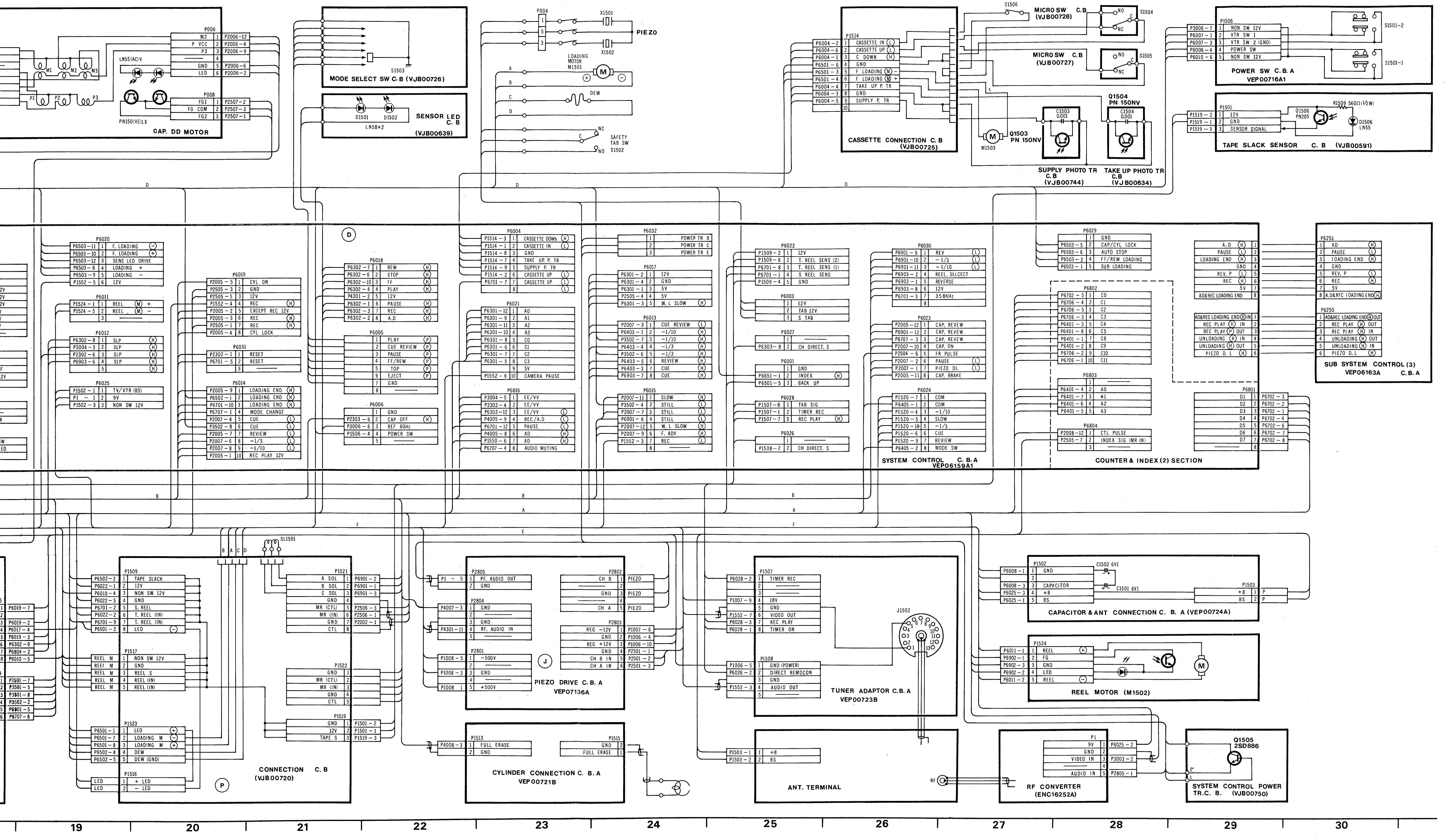
CAP. DD MOTOR
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P008
PN150(VE)LX
LN55(ACIV
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C1504 0.001
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P1502
C1502 6V1
C1501 6V1
P1503
CAPACITOR & ANT CONNECTION C. B. A (VEP00724A)
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P1
RF CONVERTER (ENC16252A)
Q1505 2SD886
SYSTEM CONTROL POWER TR.C. B. (VJB00750)
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ORDER NO. VRD-8203-059

Service Manual

Video Cassette Recorder

Vol. 5

Panasonic
Omnivision II VHS

NV-8950

Exploded Views
Replacement Parts Lists

SPECIFICATIONS

Power Source: 120V AC, 60Hz
Power Consumption: Approx. 77 watts
Television System: EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System: 2 rotary heads, helical scanning system
Luminance: FM azimuth recording
Color signal: converted subcarrier phase shift recording
Audio Track: 2 tracks
Tape Format: Tape width 1/2 inch (12.7mm), high density tape
Tape Speed: SP/1-5/16 i.p.s. (33.35mm/s),
SLP/7/16 i.p.s. (11.12mm/s)
Record/Playback Time: 360 min. with NV-T120 used in SLP mode
FF/REW Time: Less than 6 min. with NV-T120
Heads: Video: 4 rotary heads
Audio/Control: 1 stationary head
Erase: 1 full track erase
2 audio track erase for audio dubbing
Input Level: Video: Tuner Connector
1.0Vp-p, 75Ω unbalanced
Camera Input Terminal
1.0Vp-p, 75Ω unbalanced
VIDEO IN connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: Tuner Connector
−16dB, 5kΩ unbalanced
Camera Input Terminal
−20dB, 50kΩ unbalanced
MIC IN jack × 2
−70dB, 47kΩ unbalanced
LINE IN jack (RCA) × 2
−20dB, 50kΩ unbalanced

Output Level: Video: VIDEO OUT connector (BNC)
1.0Vp-p, 75Ω unbalanced
Audio: LINE OUT jack (RCA) × 2
−9dB, 1kΩ less unbalanced
AUDIO MONITOR OUT jack
(RCA) −9dB, 1kΩ less unbalanced
RF Modulated: Channel 3 or 4
67dBμ (open voltage),
75Ω unbalanced
Video Horizontal Resolution (on monoscope test pattern): Color/Monochrome: more than 240 lines
Audio Frequency Response: 50Hz ~ 10kHz in SP mode
Signal-to-Noise Ratio: Video: better than 45dB
(Rohde & Schwarz noise meter)
Audio: better than 48dB (Dolby NR-IN)
Operating Temperature: 41°F ~ 104°F (5°C ~ 40°C)
Operating Humidity: 35% ~ 80%
Weight: 36.3 lbs. (16.5kg)
Dimensions: 17-3/4″(W) × 6-5/8″(H) × 16-13/16″(D)
450(W) × 168(H) × 426(D)mm

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

Panasonic®

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Ontario, L4W 2T3

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Victoria Industrial Park
Carolina, Puerto Rico 00630

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3. Chassis Frame Section 5- 5
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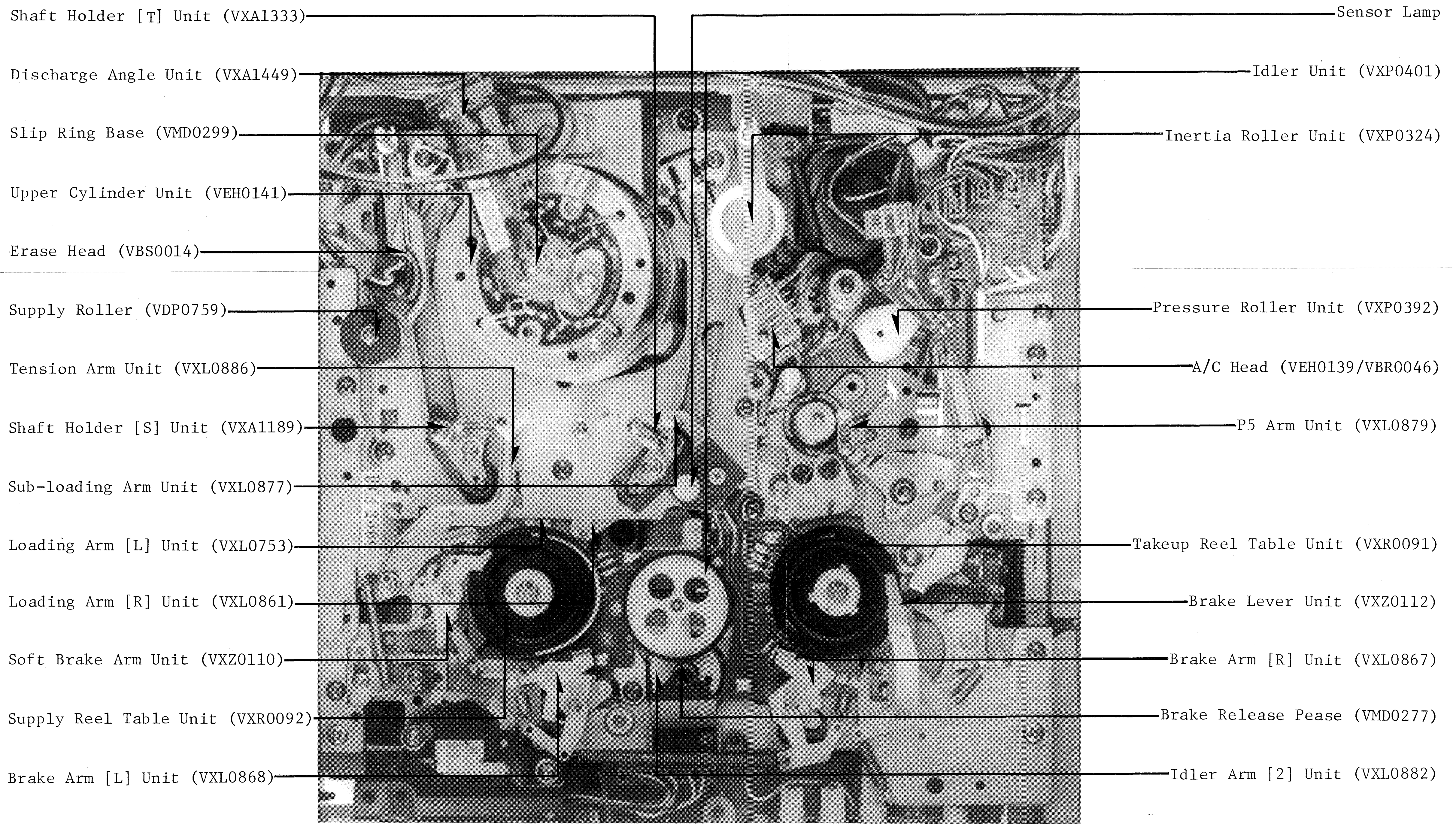
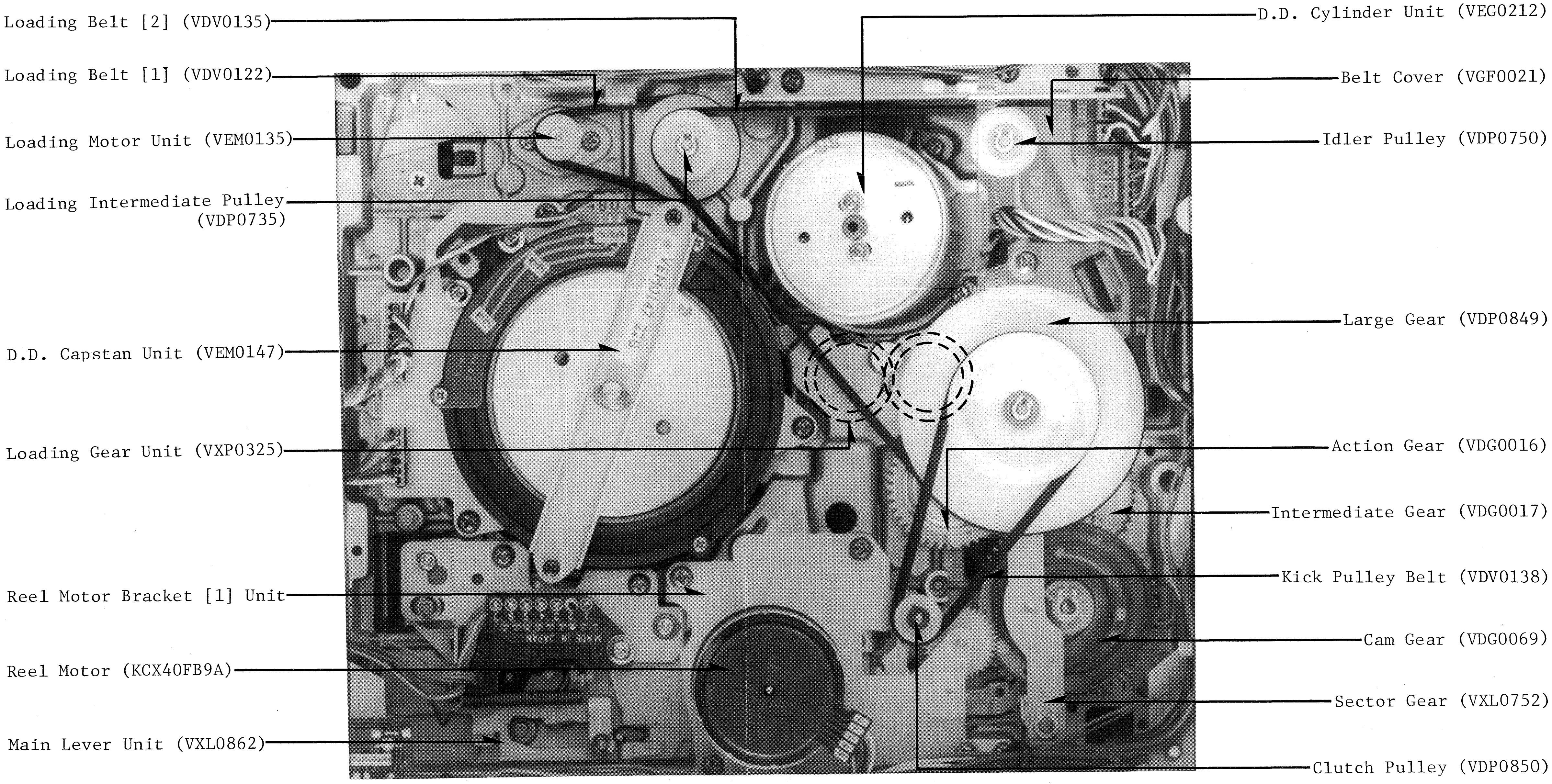
INNER PARTS LOCATION

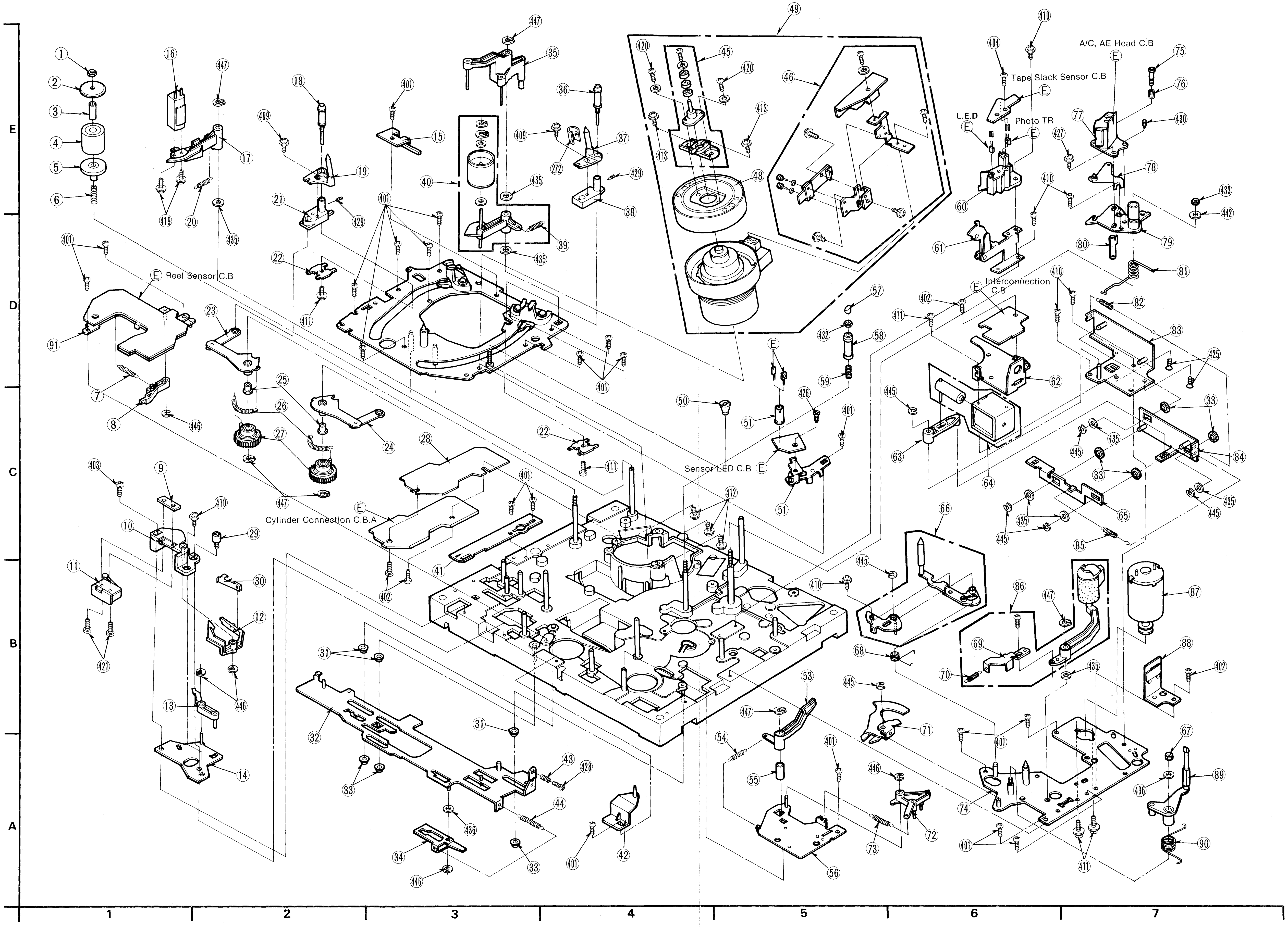
TOP VIEW


Shaft Holder [T] Unit (VXA1333)
Discharge Angle Unit (VXA1449)
Slip Ring Base (VMD0299)
Upper Cylinder Unit (VEH0141)
Erase Head (VBS0014)
Supply Roller (VDP0759)
Tension Arm Unit (VXL0886)
Shaft Holder [S] Unit (VXA1189)
Sub-loading Arm Unit (VXL0877)
Loading Arm [L] Unit (VXL0753)
Loading Arm [R] Unit (VXL0861)
Soft Brake Arm Unit (VXZ0110)
Supply Reel Table Unit (VXR0092)
Brake Arm [L] Unit (VXL0868)
Sensor Lamp
Idler Unit (VXP0401)
Inertia Roller Unit (VXP0324)
Pressure Roller Unit (VXP0392)
A/C Head (VEH0139/VBR0046)
P5 Arm Unit (VXL0879)
Takeup Reel Table Unit (VXR0091)
Brake Lever Unit (VXZ0112)
Brake Arm [R] Unit (VXL0867)
Brake Release Pease (VMD0277)
Idler Arm [2] Unit (VXL0882)

BOTTOM VIEW


Loading Belt [2] (VDV0135)
Loading Belt [1] (VDV0122)
Loading Motor Unit (VEM0135)
Loading Intermediate Pulley (VDP0735)
D.D. Capstan Unit (VEM0147)
Loading Gear Unit (VXP0325)
Reel Motor Bracket [1] Unit
Reel Motor (KCX40FB9A)
Main Lever Unit (VXL0862)
D.D. Cylinder Unit (VEG0212)
Belt Cover (VGF0021)
Idler Pulley (VDP0750)
Large Gear (VDP0849)
Action Gear (VDG0016)
Intermediate Gear (VDG0017)
Kick Pulley Belt (VDV0138)
Cam Gear (VDG0069)
Sector Gear (VXL0752)
Clutch Pulley (VDP0850)
VEM0147 22B
MADE IN JAPAN

EXPLODED VIEWS ❶ *Moving Mechanism (Loading) Section-1*



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A/C, AE Head C.B
Tape Slack Sensor C.B
L.E.D
Photo TR
Reel Sensor C.B
Interconnection C.B
Sensor LED C.B
Cylinder Connection C.B.A
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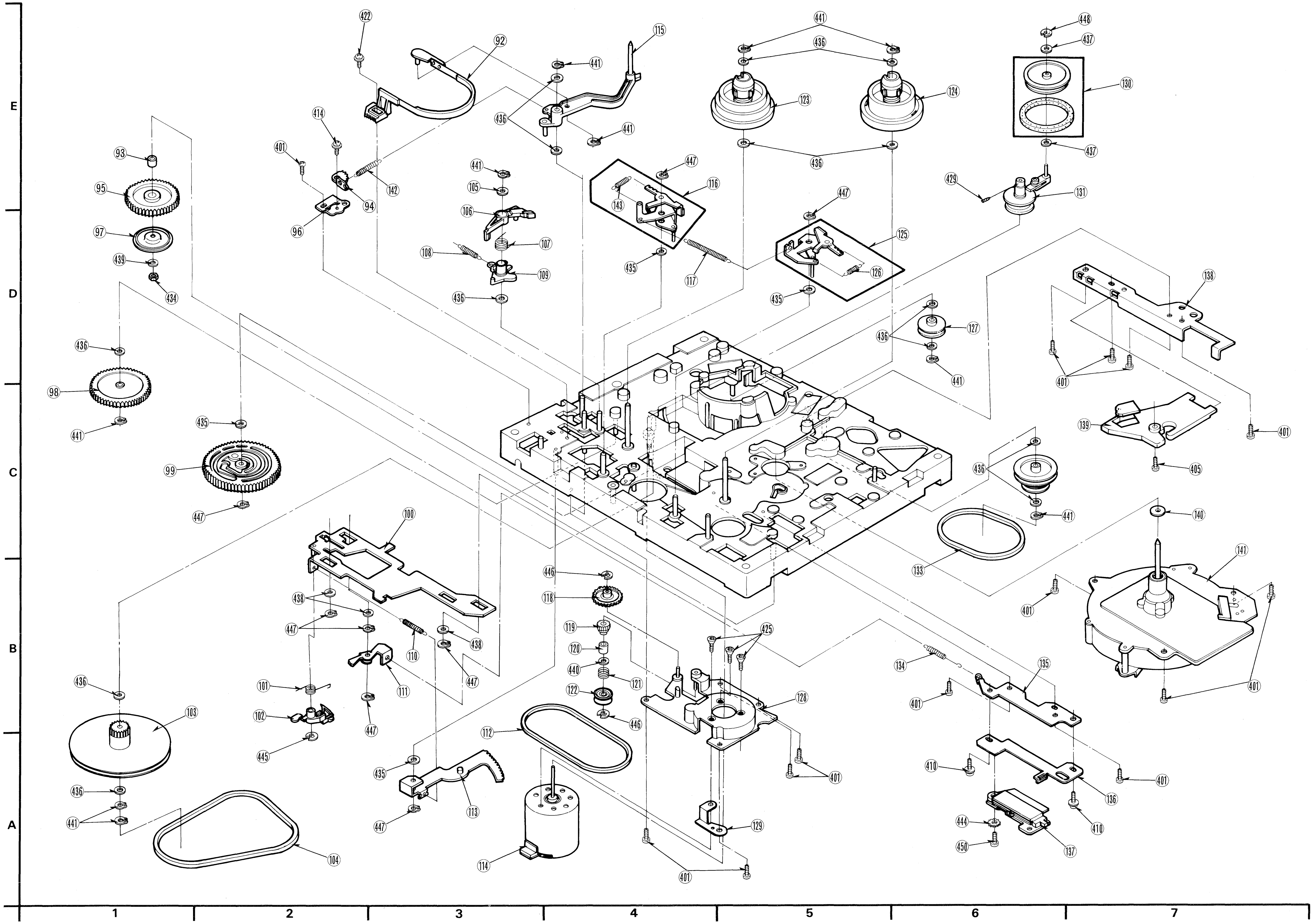
❷ *Moving Mechanism (Reel Table) Section-2*



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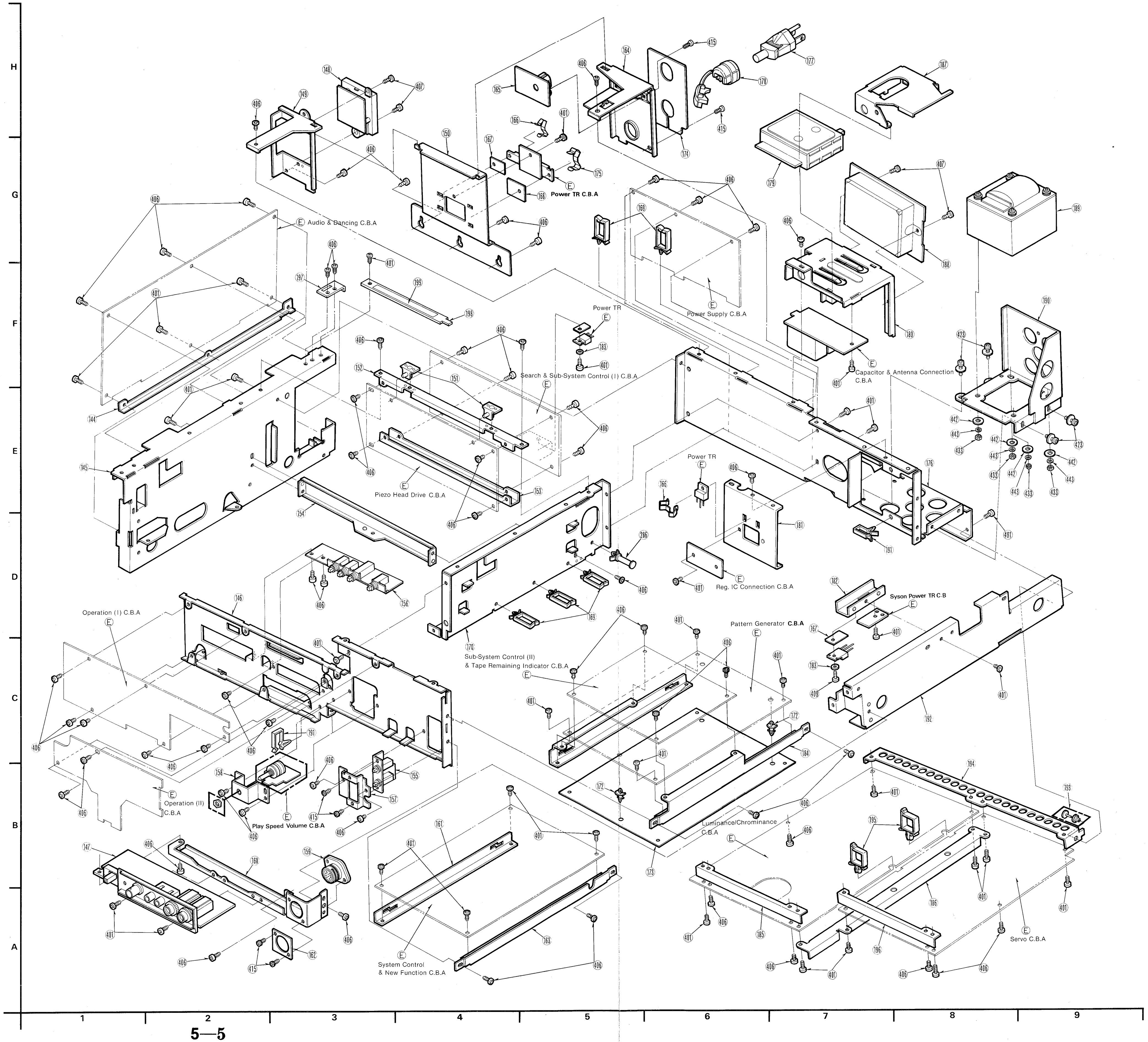
❸ Chassis Frame Section



Audio & Dancing C.B.A
Power TR C.B.A
Power Supply C.B.A
Power TR
Search & Sub-System Control (I) C.B.A
Capacitor & Antenna Connection C.B.A
Piezo Head Drive C.B.A
Power TR
Reg. IC Connection C.B.A
Syson Power TR C.B
Operation (I) C.B.A
Pattern Generator C.B.A
Sub-System Control (II) & Tape Remaining Indicator C.B.A
Operation (II) C.B.A
Play Speed Volume C.B.A
Luminance/Chrominance C.B.A
System Control & New Function C.B.A
Servo C.B.A
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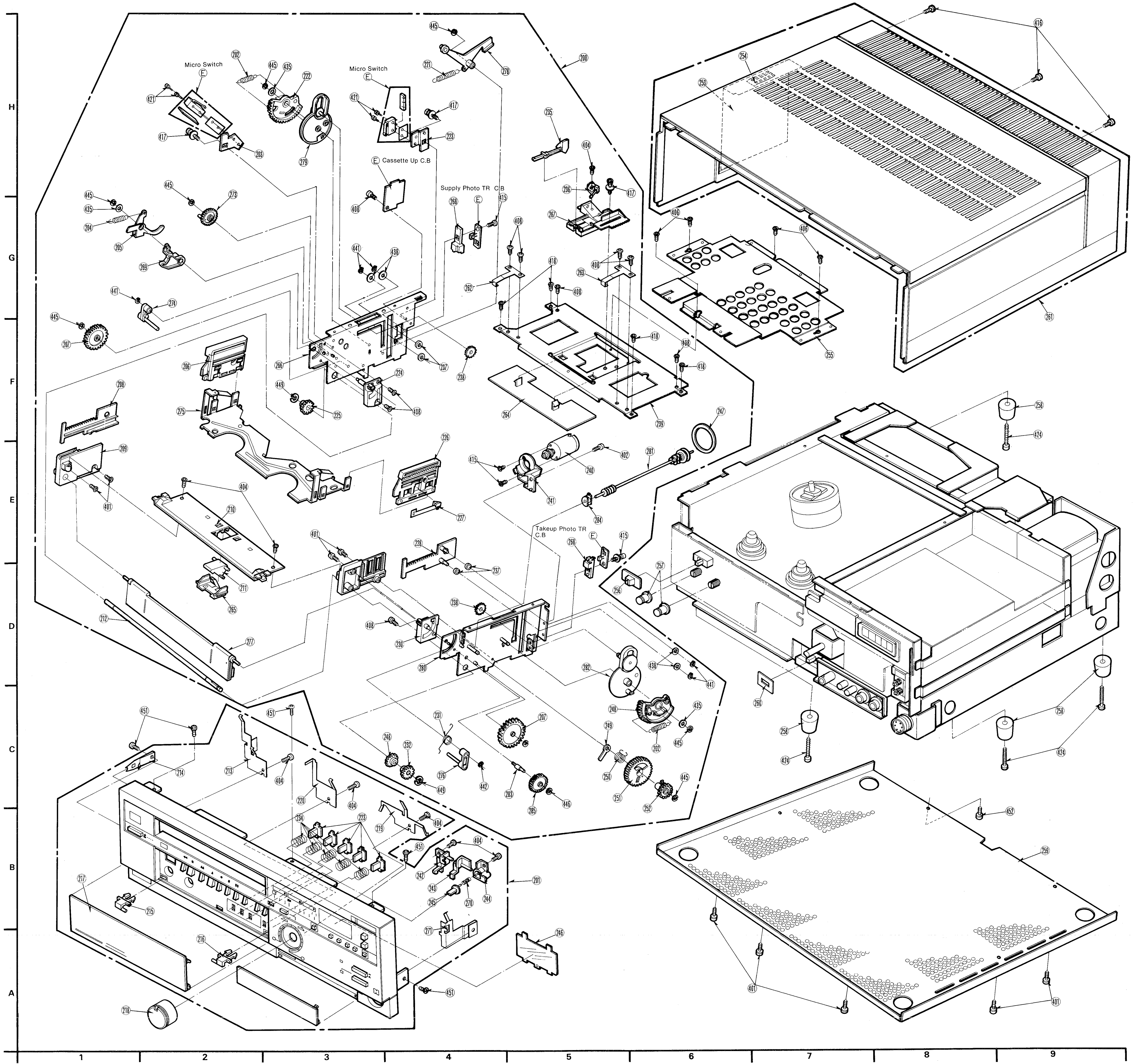
❹ *Casing Parts Section*


Micro Switch
Micro Switch
Cassette Up C.B
Supply Photo TR C.B
Takeup Photo TR C.B
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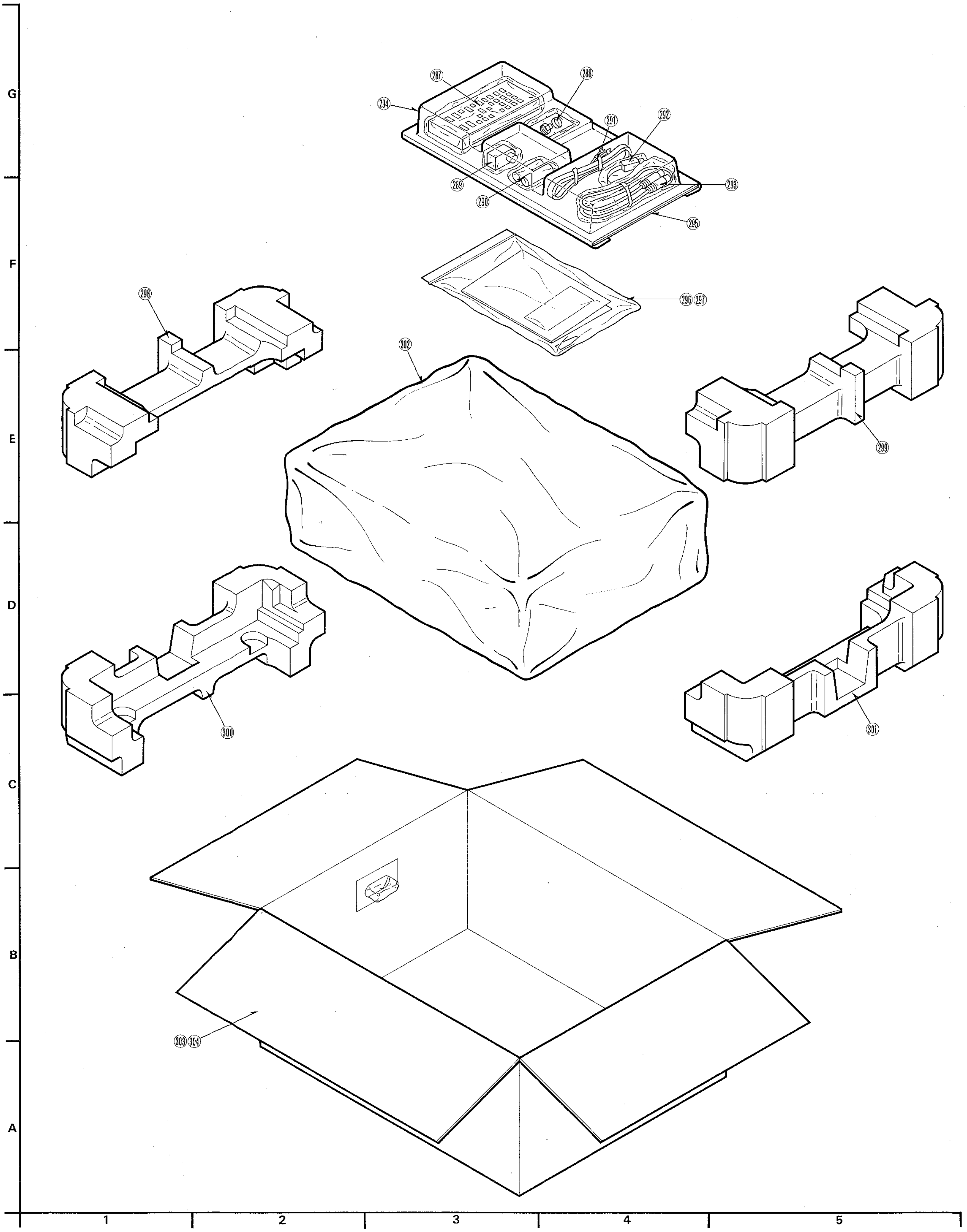
❺ *Packing Parts & Accessories Section*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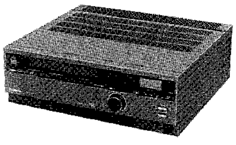
MECHANICAL REPLACEMENT PARTS LIST

Model No. NV-8950

Notes:

1. ∗ Be sure to make your orders of replacement parts according to this list.
   ∗ " Ⓝ" in Remarks column indicates new parts.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. The column of Ref. No. indicates the number of exploded view and the located position of the part. Refer to exploded views of No. 1—7 and see the cross section of the horizontal column (1—up) and the vertical column (A—up).



Item No.	Drawing No.	Description	Pcs/ Set	Availa- bility	Part No.	Remark
1	1	Nylon Nut	1		VHD0045	
2	1	Upper Limiter	1		VMX0297	
3	1	Collar	1		VMX0288	
4	1	Supply Roller	1		VDP0759	
5	1	Under Limiter	1		VMS1768	
6	1	Supply Limiter Spring	1		VMB0754	
7	1	Idler Stopper Spring	1		VMB0882	
8	1	Idler Stopper	1		VML1235	
9	1	Nut Plate	1		VMA5372	
10	1	Cassette Support Unit	1		VXA1441	
11	1	Micro Switch	1		VSM0027	Ⓝ
12	1	Detect Lever	1		VML1244	
13	1	Brake Release Unit	1		VXL0875	
14	1	Brake Release Base Unit	1		VXA1431	Ⓝ
15	1	Wire Holder Angle	1		VMA4122	
16	1	Erase Head	1		VBS0014	
17	1	Erase Head Lever	1		VML1032	
18	1	Roller Post(S) Unit	1		VXP0302A	
19	1	Inclind Base(S) Unit	1		VXA1191	
20	1	Erase Head Lever Spring	1		VMB0665	
21	1	Shaft Holder(S) Unit	1		VXA1189	
22	1	Shaft Holder Spring A	2		VMA4436	
23	1	Loading Arm(L) Unit	1		VXL0753	
24	1	Loading Arm(R) Unit	1		VXL0861	
25	1	Arm Sleeve	2		VMX0257	
26	1	Loading Spring	2		VMB0669	
27	1	Loading Gear Unit	2		VXP0325	
28	1	Insulated Sheet	1		VMZ0295	
29	1	Screw	1		VHD0068	
30	1	Actuator Spring	1		VMB0708	
31	1	Slide Washer(D)	3		VMX0308	
32	1	Main Lever Unit	1		VXL0862	
33	1	Slide Washer(B)	4		VMX0471	
34	1	Brake Kick Lever Unit	1		VXZ0135	
35	1	P6 Arm Unit	1		VXL0888	Ⓝ
36	1	Roller Post(T) Unit	1		VXP0302C	
37	1	Inclined Base(B) Unit	1		VXA1084	
38	1	Shaft Holder(T) Unit	1		VXA1333	
39	1	Inertia Roller Arm Spring	1		VMB0667	
40	1	Inertia Roller Unit	1		VXP0324	
41	1	Angle Plate	1		VMA4781	
42	1	Brake Release Pease	1		VMD0277	
43	1	Adjust Spring	1		VMB0680	
44	1	Brake Kick Lever Spring	1		VMB0881	
45	1	Slip Ring Unit	1		VXS0054	
46	1	Slip Brush Angle Unit	1		VXA1449	Ⓝ
47	1	Slip Ring Base	1		VMD0299	
48	1	Upper Cylinder Unit	1		VEH0141	Ⓝ
49	1	D.D. Cylinder Unit	1		VEG0212	Ⓝ
50	1	"X" Adjust Nut	1		VHN0014	
51	1	L.E.D. Holder	1		VMD0145	
52	1	L.E.D. Holder Angle	1		VMA4795	
53	1	Brake Lever Unit	1		VXZ0112	Ⓝ
54	1	Brake Spring	1		VMB0885	
55	1	Sleeve	1		VMX0369	
56	1	Chassis Angle Base(1) Unit	1		VXA1429	Ⓝ
57	1	P4 Cap	1		VMX0271	
58	1	Post Sleeve	1		VMX0280	
59	1	P4 Spring	1		VMB0699	
60	1	Cue Sensor Bracket	1		VMD0307	
61	1	Opener Unit	1		VXA1439	
62	1	Intermediate Angle	1		VMA4794	Ⓝ
63	1	Solenoid Lever	1		VML1255	Ⓝ
64	1	P6 Solenoid	1		VSJ0057	Ⓝ
65	1	P6 Pressure Lever A	1		VML1266	Ⓝ
66	1	Sub Loading Arm Unit	1		VXL0877	Ⓝ
67	1	Nylon Nut	1		VHN0023	
68	1	Sub Loading Spring	1		VMB0889	
69	1	Spring Hook	1		VMA4741	
70	1	Return Spring	1		VMB0880	
71	1	Action Lever	1		VML1270	Ⓝ
72	1	Soft Brake(T) Unit	1		VXL0873	
73	1	Soft Brake Spring(T)	1		VMB0886	
74	1	P5 Post Base(1) Unit	1		VXA1436	
75	1	Adjust Screw	1		VHD0054	
76	1	Adjust Spring	1		VMB0404	
77	1	A/C Head	1		VBR0046	
78	1	A/C Head Base Unit	1		VXA1437	
79	1	A/C Head Base Bracket Unit	1		VXA1438	
80	1	Nut Bar	1		VMA4289	
81	1	A/C Height Spring	1		VMB0668	
82	1	Solenoid Lever Spring	1		VMB0887	Ⓝ
83	1	Solenoid Base(1) Unit	1		VXA1443	Ⓝ
84	1	P6 Pressure Lever Bracket Unit	1		VXL0887	Ⓝ
85	1	P6 Pressure Spring	1		VMB0888	Ⓝ
86	1	Pressure Roller Unit	1		VXP0392	
87	1	Loading Motor Unit	1		VEM0135	
88	1	Dew Sensor Unit	1		VEK1293	
89	1	P5 Arm Unit	1		VXL0879	Ⓝ
90	1	P5 Arm Spring	1		VMB0891	
91	1	Hall IC Base	1		VXA1427	
92	2	Tension Band Unit	1		VXZ0128	
93	2	Action Gear Sleeve	1		VMX0268	
94	2	Adjust Fuck	1		VMA4089	
95	2	Action Gear	1		VDG0016	
96	2	Adjust Table	1		VMA4090	
97	2	Holder	1		VMA4088	
98	2	Intermediate Gear	1		VDG0017	
99	2	Cam Gear	1		VDG0069	
100	2	Sub Lever(1) Unit	1		VXL0865	
101	2	Kick Lever Spring	1		VMB0890	
102	2	Kick Lever	1		VML1273	
103	2	Large Pulley	1		VDP0849	
104	2	Loading Belt(2)	1		VDV0135	
105	2	Soft Brake Stopper	1		VMX0249	
106	2	Loading Brake Arm Unit	1		VXZ0110	
107	2	Soft Brake Spring(1)	1		VMB0701	
108	2	Soft Brake Spring(2)	1		VMB0659	
109	2	Soft Brake Lever A	1		VML1258	
110	2	Sub Rod Spring	1		VMB0860	
111	2	Brake Release Lever(1) Unit	1		VXL0891	
112	2	Kick Pulley Belt	1		VDV0138	
113	2	Sector Gear	1		VXL0752	
114	2	Reel Motor	1		KCX40FB9A	Ⓝ
115	2	Tension Arm Unit	1		VXL0886	
116	2	Brake Arm(L) Unit	1		VXL0868	
117	2	Brake Arm Spring	1		VMB0661	
118	2	Kick Gear	1		VDG0080	
119	2	Clutch Gear	1		VDG0081	
120	2	Clutch Color	1		VMX0405	
121	2	Clutch Spring	1		VMB0897	

Item No.	Drawing No.	Description	Pcs/ Set	Availa-bility	Part No.	Remark
122	2	Clutch Pulley	1		VDP0850	
123	2	Supply Reel Table Unit	1		VXR0092	
124	2	Takeup Reel Table Unit	1		VXR0091	Ⓝ
125	2	Brake Arm(R) Unit	1		VXL0867	
126	2	Brake Lever Spring	2		VMB0660	
127	2	Idler Pulley	1		VDP0750	
128	2	Reel Motor Bucket(1) Unit	1		VXA1434	
129	2	Earth Angle	1		VMA4739	
130	2	Idler Unit	1		VXP0401	
131	2	Idler Arm(2) Unit	1		VXL0882	
132	2	Loading Intermediate Pulley	1		VDP0735	
133	2	Loading Belt(1)	1		VDV0122	
134	2	Brake Release Lever Spring	1		VMB0884	
135	2	Mood Switch Angle A	1		VMA4796	
136	2	Mood Select Switch B	1		VMA4743	
137	2	Mood Select Switch	1		VSS0060	
138	2	Chassis Bracket	1		VMA4318	
139	2	Belt Cover	1		VGF0021	
140	2	Oil Seal	1		VMX0251	
141	2	D.D Capstan Unit	1		VEM0147	
142	2	Tension Spring	1		VMB0790	
143	2	Brake Lever Spring	1		VMB0660	
144	3	P.C.Board Angle	1		VMA4761	Ⓝ
145	3	Left Frame	1		VMA4750	Ⓝ
146	3	Front Frame	1		VMA4749	Ⓝ
147	3	In Put Jack Unit	1		VEP00714A1	
148	3	Out Put Jack	1		VJH0205	
149	3	Out Put Angle	1		VMA4756	Ⓝ
150	3	Radiation Panel	1		VSC0610	Ⓝ
151	3	Hinji Clip	2		VKC0049	
152	3	P.C.Board Angle(Upper)	1		VMA4762	Ⓝ
153	3	P.C.Board Angle(Under)	1		VMA4763	Ⓝ
154	3	Rear Frame	1		VMA4753	Ⓝ
155	3	Power Switch P.C.Board Unit	1		VEP00716A1	
156	3	Speed Control Switch P.C.Board Unit	1		VEP0480A	Ⓝ
157	3	Power Switch Angle	1		VMA4755	Ⓝ
158	3	Speed Control Angle	1		VMA4754	Ⓝ
159	3	Camera Socket	1		VEK1349	
160	3	In Put Jack Angle	1		VMA4768	Ⓝ
161	3	P.C.Board Angle(Left)	1		VMA4765	Ⓝ
162	3	Camera Jack Sheet	1		VGQ0238	
163	3	P.C.Board Angle(Right)	1		VMA4764	Ⓝ
164	3	Power Cord Angle	1		VMA5872	Ⓝ
165	3	Tuner Connection Socket	1		VEP00723B	
166	3	Transistor Hold Spring	2		VMB0758	
167	3	Mica Sheet	2		N018	
168	3	Mica Sheet	1		N018R	
169	3	Rocking Wire Saddle	5		VJF0046	Ⓝ
170	3	Chassis Frame(Center)	1		VMA4751	Ⓝ
171	3	P.C.Board Angle(Left)	1		VMA4767	Ⓝ
172	3	P.C.Board Support	2			
173	3	LSI Barrier	1		VMZ0363	
174	3	Power Cord Sheet	1		VGN1809	
175	3	Transistor Holder Spring	1		VMB0751	
176	3	Rear Frame	1		VMA4748	Ⓝ
177	3	Power Cord	1		VJA0113	⚠
178	3	Power Cord Bushing	1		VMP5027	⚠
179	3	RF Converter	1		ENC16252A	
180	3	RF Converter Angle(Under)	1		VMA4760	Ⓝ
181	3	Heat Sink	1		VSC0611	Ⓝ
182	3	Heat Sink	1		VSC0635	Ⓝ
183	3	Tube	2		N024B	
184	3	P.C.Board Angle(Right)	1		VMA4766	Ⓝ
185	3	P.C.Board Angle(Front)	1		VMA4770	Ⓝ

Item No.	Drawing No.	Description	Pcs/ Set	Availa-bility	Part No.	Remark
186	3	P.C.Board Angle(Center)	1		VMA4771	Ⓝ
187	3	RF Converter Angle(Upper)	1		VMA4759	Ⓝ
188	3	Antenna Terminal Board	1		ENPD618	
189	3	Power Transformer	1		ETP76PU10A	⚠
190	3	Transformer Angle	1		VMA4758	Ⓝ
191	3	Wire Saddle	2		VGQ0107	
192	3	Chassis Frame(Right)	1		VMA4752	Ⓝ
193	3	Revet			VDB0358	
194	3	P.C.Board Angle(Rear)	1		VMA4772	Ⓝ
195	3	Wire Clip	2		VJF0056	
196	3	P.C.Board Angle	1		VMA4769	Ⓝ
197	3	Terminal Board Angle	1		VMA4973	
198	3	Label Plate	1		VGQ0327	
199	3	Fuse Caution Label	1		VQL1426	
200	4	Cassette Up Unit	1		VXA1442	Ⓝ
201	4	Front Panel Unit	1		VYP0577	
202	4	Cassette Support Spring	2		VMB0892	Ⓝ
203	4	Switch Bracket B	1		VMA4776	Ⓝ
204	4	Opener Spring L	1		VMB0877	Ⓝ
205	4	Opener Lever A	1		VML1228	Ⓝ
206	4	Cassette Holder Guide L	1		VMD0287	Ⓝ
207	4	Action Gear A	2		VDG0072	Ⓝ
208	4	Slider L	1		VMD0289	Ⓝ
209	4	Slide Guide L	1		VMD0285	Ⓝ
210	4	Cassette Guide	1		VMD0295	Ⓝ
211	4	Safety Tab Knob	1		VMD0294	Ⓝ
212	4	Main Shaft	1		VMS2000	Ⓝ
213	4	Eject Button Earth Spring	1		VMB0942	Ⓝ
214	4	Earth Spring A	1		VMB0862	Ⓝ
215	4	Front Door Support Tab L	1		VGQ0325	Ⓝ
216	4	Front Door Support Tab R	1		VGQ0326	Ⓝ
217	4	Front Door	1		VKF0125	Ⓝ
218	4	Speed Control Knob	1		VGT0258	Ⓝ
219	4	Button Earth Spring	1		VMB0943	
220	4	Door Earth Spring	1		VMB0945	Ⓝ
221	4	Switch Lever Spring	1		VMB0879	Ⓝ
222	4	Cam Gear L	1		VDG0070	Ⓝ
223	4	Switch Bracket A	1		VMA4775	Ⓝ
224	4	Cassette Guide(L)	1		VMD0276	Ⓝ
225	4	Action Gear(C)	2		VDG0074	Ⓝ
226	4	Cassette Holder Guide(R)	1		VMD0288	Ⓝ
227	4	Release Spring Unit	1		VMD0292	Ⓝ
228	4	Slider R	1		VMD0290	Ⓝ
229	4	Slide Guide R	1		VMD0286	Ⓝ
230	4	Cassette Guide(R)	1		VMD0275	Ⓝ
231	4	Opener Spring(R)	1		VMB0876	Ⓝ
232	4	Action Gear E	1		VDG0097	Ⓝ
233	4	Bilingual Audio Button	4		VGU0255	Ⓝ
234	4	Bilingual Audio Spring	4		VMB0859	Ⓝ
235	4	Cassette In Switch Lever	1		VML1248	Ⓝ
236	4	Leaf Switch	1		VSH0013	
237	4	Guide Roller	4		VDP0839	Ⓝ
238	4	Rolling Gear	2		VDG0068	Ⓝ
239	4	Top Plate	1		VMA4792	Ⓝ
240	4	Cassette Motor Unit	1		MXN12AD08F	
241	4	Motor Bracket	1		VMD0291	Ⓝ
242	4	Door Fuck	1		VGQ0224	Ⓝ
243	4	Kick Lever	1		VML1252	Ⓝ
244	4	Button Holder	1		VGQ0257	Ⓝ
245	4	Door Open Button	1		VGU0270	Ⓝ
246	4	Counter Filter	1		VKW0049	Ⓝ
247	4	Loading Belt	1		VDV0074	Ⓝ
248	4	Cam Gear R	1		VDG0071	Ⓝ
249	4	Stop Lever	1		VML1249	Ⓝ

Item No.	Drawing No.	Description	Pcs/ Set	Availability	Part No.	Remark
250	4	Clutch Spring	1		VMB0878	Ⓝ
251	4	Worm Wheel	1		VDG0076	Ⓝ
252	4	Clutch Gear	1		VDG0077	Ⓝ
253	4	Audio Shield Plate	1		VSC0633	Ⓝ
254	4	Shield Plate Earth Spring	1		VMB0765	
255	4	Shield Plate	1		VSC0629	Ⓝ
256	4	Mode Select Switch	1		VGT0211	Ⓝ
257	4	Tracking Knob	2		VGT0212	Ⓝ
258	4	Rubber Foot	4		VGM0172	
259	4	Bottom Panel	1		VKU0163	
260	4	Switch Cover A	1		VMF0193	
261	4	Top Panel Unit	1		VYP0578	
262	4	Blinder Stopper(L)	1		VMA5785	Ⓝ
263	4	Blinder Stopper(R)	1		VMA5786	Ⓝ
264	4	Top Guide	1		VMD0337	Ⓝ
265	4	Safety Switch Holder	1		VXA1622	
266	4	Side Plate(L)	1		VXK0536	
267	4	Cassette In Switch Holder	1		VMD0296	Ⓝ
268	4	Transistor Holder	2		VMD0091	Ⓝ
269	4	Opener Lever B	1		VML1227	Ⓝ
270	4	Power Spring	1		VMB0858	
271	4	Button Earth Spring	1		VMB0944	
272	1	Guide Snap	1		VMX0301	
273	4	Opener Gear	1		VXA1619	Ⓝ
274	4	Opener Lever(C)	1		VXA1620	Ⓝ
275	4	Cassette Holder	1		VXA1621	Ⓝ
276	4	Opener Lever(A)	1		VXA1625	Ⓝ
277	4	Blinder Panel	1		VYF0193	Ⓝ
278	4	Switch Lever	1		VXA1623	Ⓝ
279	4	Main Arm(L)	1		VXA1624	Ⓝ
280	4	Side Plate(R)	1		VXK0539	Ⓝ
281	4	Worm Shaft	1		VXA1626	Ⓝ
282	4	Main Arm(R)	1		VXA1627	Ⓝ
283	4	Action Gear(D) Shaft	1		VMS1998	Ⓝ
284	4	Worm Shaft(B)	1		VDB0600	Ⓝ
285	4	Action Gear(D)	1		VDG0073	Ⓝ
286	3	Support Spacer	1		VJF0091	
287	5	Remote Control Box	1		VSQ0227	Ⓝ
288	5	F Type Connector	1		VSQ0051	
289	5	300-75Ω Connector	1		VFA0010	
290	5	Battery	1		SUM-3NEP-2P	
291	5	Twin Lead Cable	1		VJA0102A	
292	5	Matching Box(300/75)	1		VSQ0015	
293	5	FF Cable	1		VJA0147	
294	5	Accessory Case A	1		VPN0594	
295	5	Accessory Case B	1		VPN0595	
296	5	Fan Bag			VQF0733	NV-8950-P Ⓝ
297	5	Fan Bag			VQF0734	NV-8950-K Ⓝ
298	5	Left Cushion(Upper)	1		VPN0689	
299	5	Right Cushion(Upper)	1		VPN0688	
300	5	Left Cushion(Under)	1		VPN0687	
301	5	Right Cushion(Under)	1		VPN0686	
302	5	Polyethylene Bag	1		VPF0114	
303	5	Packing Case	1		VPG1021	NV-8950-P Ⓝ
304	5	Packing Case	1		VPG1035	NV-8950-K Ⓝ

Item No.	Drawing No.	Description	Pcs/ Set	Availability	Part No.	Remark
401	1,2,3,4		71		XTV3+8F	
402	1		5		XTV3+6F	
403	1		1		XTV3+20F	
404	1,3,4		8		XTV3+8J	
405	2		1		XTV3+10F	
406	3,4		75		XTV3+8FR	
407	3		4		XTV3+8FFZ	
408	4		8		XTV3+6V	
409	1,3		3		XYN3+F8S	
410	1,2		9		XYN3+F6S	
411	1		5		XYN3+C4S	
412	1		3		XYN3+C10S	
413	1		2		XYN3+A12BNS	
414	2		1		XYN3+F5S	
415	3,4		7		XYN3+C8S	
416	3		3		XYN3+F8FZS	
417	4		3		XYN3+F6F	
418	4		4		XYN3+F8RS	
419	1		2		XYN2+C4	
420	1		2		XYN2+C8	
421	1,3,4		6		XYN2+C10	
422	2		1		XYE3+BF8	
423	3		4		XYN4+F8S	
424	4		4		XSN4+15S	
425	1,2		5		XSS3+4S	
426	1		1		XSS26+4	
427	1		1		XSN3D10S	
428	1		1		XSN3+10S	
429	1,2		3		XXEV2D2FP	
430	1		1		XXE3A6FPS	
431	4		4		XSN4+15S	
432	1		1		XNG3ES	
433	1,3		5		XNG4ES	
434	2		1		XNG3CS	
435	1,2,4		17		XWGV4D9G	
436	1,2		16		XWGV3D6G	
437	2		2		XWGV2D4G	
438	2,4		6		XWGV4D11G	
439	2		1		XWA3B	
440	2		1		XWGV51F66G	
441	2,4		10		XUEV3VW	
442	1,3		5		XWG4	
443	3		4		XWA4B	
444	2		1		XWC3B	
445	1,2,4		17		XUC3FP	
446	1,2		7		XUC25FP	
447	1,2		14		XUEV4VW	
448	2		1		XUC15FP	
449	4		4		XUC5FP	
450	2		1		XYN3+F10S	
451	4		5		XTW3+8LR	
452	4		1		XYE3+EF8	

ELECTRICAL REPLACEMENT PARTS LIST

Model No. NV-8950

Notes:
1. * Be sure to make your orders of replacement parts according to this list.
   * "Ⓝ" in Remarks column indicates new parts.
2. IMPORTANT SAFETY NOTICE
   Components identified by ⚠ have special characteristics important for safety.
   When replacing any of these components, use only the original ones.
3. Unless otherwise specified,
   All resistors are in OHMS (Ω), 1/8W ± 5% carbon. K=1,000Ω, M=1,000KΩ.
   All capacitors are in MICROFARADS (μF), ± 10% P=μμF.

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP01104A	Power Supply P.C. Board	1	Ⓝ⚠
		VEP06159A1	System Control & Index(II) P.C. Board	1	Ⓝ
		VEP02147A	Search & Sub System Control (I) P.C. Board	1	Ⓝ
		VEP06162A	Remaining Tape Time Display & Sub System Control (II) P.C. Board	1	Ⓝ
		VEP06163A1	Sub System Control (III) P.C. Board	1	Ⓝ
		VEP02145A	Servo & Index (I) P.C.Board	1	Ⓝ
		VEP02146A1	Pattern Generator P.C. Board	1	Ⓝ
		VEP07136A	Piezo Drive P.C. Board	1	Ⓝ
		VEP03136A	Luminance & Chrominance P.C. Board	1	Ⓝ
		VEP0479A1	Audio & V-Dancing Comp. (I) P.C. Board	1	Ⓝ
		VEP03142A	V-Dancing Comp. (II) P.C. Board	1	Ⓝ
		VEP06160A	Operation (I) P.C. Board	1	Ⓝ
		VEP06161A	Operation (II) P.C. Board	1	Ⓝ
		VEP00886A	Envelope Amp P.C. Board	1	Ⓝ
		VEP00885A1	Input Jack P.C. Board	1	Ⓝ
		VEP0480A	Output Select P.C. Board	1	Ⓝ
		VEP00723B	Tuner Adaptor Connection C.B.	1	Ⓝ
		VJB00895	Output Jack C.B.	1	
		VJB00717	Power TR Connection C.B.	1	Ⓝ
		VJB00718	Regulator IC Connection C.B.	1	Ⓝ
		VJB00750	System Control Power TR Connection C.B.	1	Ⓝ
		VJB00715	Speed Control C.B.	1	Ⓝ
		VJB00716	Power SW C.B.	1	Ⓝ
		VJB00720	Interconnection C.B.	1	
		VJB00725	Cassette Up C.B.	1	Ⓝ
		VJB00724	Gold Capacitor & Antenna Connection P.C. Board	1	Ⓝ
		VJB00721	Cylinder Connection C.B.	1	Ⓝ
		VJB00722	Reel Sensor C.B.	1	Ⓝ
		VJB00727	Micro SW (I) C.B.	1	Ⓝ
		VJB00728	Micro SW (II) C.B.	1	Ⓝ
		VJB00525	Safety Tab SW P.C. Board	1	
		VJB00729	Slow Tracking VR C.B.	1	Ⓝ
		VJB00639	Sensor LED C.B.	1	
		VJB00591	Tape Slack Sensor C.B.	1	
		VJB00636	Takeup Photo TR C.B.	1	
		VJB00744	Supply Photo TR C.B.	1	
		VJB00719	MR Head C.B.	1	
		VJB00730	Brush C.B.	1	Ⓝ
		VSQ0237	Infrared Remote Controller C.B. (Receiver)	1	Ⓝ
		VSQ0227	Infrared Remote Controller C.B. (Transmitter)	1	Ⓝ
		ENPD618	Antenna Unit	1	Ⓝ
		ENC16252A	RF Converter Unit	1	Ⓝ
		VGN1809	Power Cord	1	⚠
		ETP76PU10A	Power Transformer	1	Ⓝ⚠

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP01104A	Power Supply P.C. Board		
			Integrated Circuit		
IC1001		μPC78M12H		1	Ⓝ
			Transistors		
Q1002		2SD639		1	(P,Q,R)
Q1003		2SD636		1	(P,Q,R)
Q1005		2SA886		1	(P,Q,R) ⚠
Q1006,1007		2SB641		2	(P,Q,R)
Q1008		2SC1827		1	(Y)
Q1009		2SD636		1	(Q,R)
Q1010		2SD636		1	(P,Q,R)
Q1011		2SD889		1	(P,Q,R,S)
			Diodes		
D1001		RB602C		1	⚠
D1003		10DC1R		1	⚠
D1004		10DC1N		1	⚠
D1007,1008		MA165		2	
D1009		RD6.2EB	Zener	1	
D1010		RD16EB2	Zener	1	
D1011		MA165		1	
D1012		RD6.2EB	Zener	1	
D1014-1016		MA165		3	
D1017		RD8.2EB2	Zener	1	
D1018,1019		RC2		2	Ⓝ⚠
D1020-1022		MA165		3	
D1023		10E1		1	⚠
D1024		RB402D		1	⚠
D1025		RD5.6JB	Zener	1	
D1026-1028		MA165		3	
			Resistors		
R1001		ERC12ZGK275	1/2W 27M	1	⚠
R1002		ERD10TJ222	2.2K	1	
R1003		ERD10TJ122	1.2K	1	
R1004,1005		ERD10TJ102	1K	2	
R1006		EVN50AA00B52	Variable 500	1	
R1007		ERD10TJ152	1.5K	1	
R1008		ERD25TJ102	1/4W 1K	1	
R1009,1010		ERD10TJ103	10K	2	
R1011		ERD10TJ822	8.2K	1	
R1012		ERD10TJ122	1.2K	1	
R1013		EVN50AA00B52	Variable 500	1	
R1014		ERD10TJ152	1.5K	1	
R1015		ERD10TJ333	33K	1	
R1016		ERD10TJ271	270	1	
R1017		ERD10TJ102	1K	1	
R1018		ERD10TJ472	4.7K	1	
R1019		EVN50AA00B52	Variable 500	1	
R1020		ERD10TJ272	2.7K	1	
R1021		ERD10TJ103	10K	1	
R1022		ERD10TJ152	1.5K	1	
R1023		ERD10TJ222	2.2K	1	
R1024		ERD10TJ562	5.6K	1	
R1025		ERQ2AJP100S	2W 10	1	⚠
R1026		ERD10TJ103	10K	1	
R1027		ERD10TJ104	100K	1	
R1028		ERD10TJ333	33K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R1029,1030		ERD10TJ102	1K	1	
R1031		ERD10TJ473	47K	1	
R1032,1033		ERD10TJ683	68K	2	
R1034		ERD10TJ102	1K	1	
R1035		ERQ14AJ2R2P	1/4W 2.2	1	⚠
			Capacitors		
C1001		ECET35R472SW	Electrolytic 35V 4.7	1	
C1002		ECET35R332SW	Electrolytic 35V 3.3	1	
C1003		ECEA1ES101	Electrolytic 25V 100	1	
C1004,1005		ECKF1H103ZF	Ceramic 50V 0.01	2	
C1006		ECEA1CS101	Electrolytic 16V 100	1	
C1007,1008		ECEA1ES470	Electrolytic 25V 47	2	
C1009		ECEA1ES222	Electrolytic 25V 2200	1	
C1010		ECEA1CS100	Electrolytic 16V 10	1	
C1011		ECKF1H103ZF	Ceramic 50V 0.01	1	
C1012		ECEA1VS102	Electrolytic 35V 1000	1	
C1013		ECKF1H103ZF	Ceramic 50V 0.01	1	
C1015,1016		ECWH10H103JR	Polypropylene 1kV 0.01	2	Ⓝ⚠
C1019		ECEA1ES470	Electrolytic 25V 47	1	
C1020		ECKF1H102KB	Ceramic 50V 0.001	1	
C1021,1022		ECQM1H333KZ	Mylar 50V 0.033	2	
C1023		ECEA1EN220	Electrolytic 25V 22	1	
C1024		ECEA0JS470	Electrolytic 6.3V 47	1	
C1025		ECEA1HS010	Electrolytic 50V 1	1	
			Connectors		
P1001-1003		TEL312	GT Pin	3	
P1005		VJP1144	6P	1	
P1006,1007		VJP1147	12P	2	
P1008		VJP1226	5P	1	
P1009		VJP1142	3P	1	
P1011		VJP1142	3P	1	
HOT,COLD		TEL312	GT Pin	2	
			Fuses		
F1001		XBA1C30NU100	125V 3A	1	Ⓝ⚠
F1002		XBA1C60NU100	125V 6A	1	Ⓝ⚠
F1003		XBA1C05NU100	125V 0.5A	1	⚠
F1004		XBA1C30NU100	125V 3A	1	Ⓝ⚠
F1005		XBA1H30NU100	125V 3A	1	⚠
			Miscellaneous		
T1001		ETS25K6A	Switching Transformer	1	Ⓝ⚠
		VSC0522	Heat Sink	2	
		VSC0636	Heat Sink	1	
		VJS0039	Fuse Holder	8	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP06159A1	System Control &		
			Index (II) P.C.Board		
			Integrated Circuits		
IC6001		MN1405VJ		1	Ⓝ
IC6002		μPD4069UBC		1	
IC6003-6005		μPD4503BC		3	
IC6006		μPC339C		1	
IC6007		MN1400VKC		1	Ⓝ
IC6008		μPC358C		1	
IC6009,6010		VCR0047		2	Ⓝ
IC6801		MN1405VUA		1	
IC6802-6804		μPD4081C		3	
			Transistors		
Q6001-6006		2SD636		6	(P,Q,R)
Q6007		2SB641		1	(P,Q,R)
Q6012,6013		2SD636		2	(P,Q,R)
Q6015		2SD636		1	(P,Q,R)
Q6016		2SB641		1	(P,Q,R)
Q6017		2SB819		1	(P,Q,R)
Q6018-6021		2SD636		4	(P,Q,R)
Q6022		2SB819		1	(P,Q,R)
Q6023		2SD636		1	(P,Q,R)
Q6024		2SB819		1	(P,Q,R)
Q6025-6027		2SD636		3	(P,Q,R)
Q6028		2SB641		1	(P,Q,R)
Q6029-6034		2SD636		6	(P,Q,R)
Q6036		2SB641		1	(P,Q,R)
Q6039		2SD636		1	(P,Q,R)
Q6040		2SB819		1	(P,Q,R)
Q6041		2SB641		1	(P,Q,R)
Q6042		2SC1847V		1	(Q,R)
Q6043,6044		2SB819		2	(P,Q,R)
Q6046		2SD1051		1	(Q,R,S)
Q6047,6048		2SD636		2	(P,Q,R)
Q6050		2SD1051		1	(Q,R,S)
Q6051-6053		2SD636		3	(P,Q,R)
Q6058,6059		2SD636		2	(P,Q,R)
Q6060		2SB641		1	(P,Q,R)
Q6061		2SD636		1	(P,Q,R)
Q6062		2SB643		1	(P,Q,R)
Q6063,6064		2SD636		2	(P,Q,R)
Q6065		2SB819		1	(P,Q,R)
Q6066		2SB641		1	(P,Q,R)
Q6067		2SD636		1	(P,Q,R)
Q6069		2SD636		1	(P,Q,R)
Q6070		2SD889		1	(P,Q,R)
Q6071		2SB641		1	(P,Q,R)
Q6072-6076		2SD636		5	(P,Q,R)
Q6801		2SB641		1	(P,Q,R)
Q6802		2SD636		1	(P,Q,R)
Q6803		2SB641		1	(P,Q,R)
Q6804,6805		2SD636		2	(P,Q,R)
			Diodes		
D6001-6019		MA165		19	
D6022-6025		MA165		4	
D6026		RD8.2JB	Zener	1	
D6027,6028		MA165		2	
D6029		RD3.9EB	Zener	1	
D6030		10E1		1	
D6031		MA165		1	
D6032,6033		10E1		2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
D6034		MA165		1	
D6037-6056		MA165		20	
D6058-6061		MA165		4	
D6063-6067		MA165		5	
D6069-6076		MA165		8	
D6080-6082		MA165		3	
D6083		10E1		1	
D6084-6091		MA165		8	
D6093-6100		MA165		8	
D6101		RD8.2JB	Zener	1	
D6102-6106		MA165		5	
D6801-6819		MA165		19	
			Resistors		
R6001		ERD10TJ333	33K	1	
R6002,6003		ERD10TJ332	3.3K	2	
R6004		ERD10TJ104	100K	1	
R6005		ERD10TJ223	22K	1	
R6006-6012		ERD10TJ104	100K	7	
R6013		ERD10TJ823	82K	1	
R6014,6015		ERD10TJ104	100K	2	
R6016,6017		ERD10TJ103	10K	2	
R6018		ERD10TJ104	100K	1	
R6019-6021		ERD10TJ103	10K	3	
R6022		ERD10TJ682	6.8K	1	
R6023		ERD10TJ152	1.5K	1	
R6024		ERD10TJ102	1K	1	
R6025		ERD10TJ223	22K	1	
R6026		ERD10TJ562	5.6K	1	
R6027		ERD10TJ104	100K	1	
R6028		ERD10TJ562	5.6K	1	
R6029		ERD10TJ124	120K	1	
R6030		ERD10TJ561	560	1	
R6031		ERD10TJ332	3.3K	1	
R6032		ERD10TJ182	1.8K	1	
R6033		ERD10TJ472	4.7K	1	
R6034		ERD10TJ103	10K	1	
R6035		ERD10TJ562	5.6K	1	
R6037,6038		ERD10TJ104	100K	2	
R6039		ERG2ANJP560S	Metal Oxide 2W 56	1	
R6040		ERD10TJ221	220	1	
R6041		ERD10TJ103	10K	1	
R6042		ERD10TJ102	1K	1	
R6043		ERD10TJ103	10K	1	
R6044,6045		ERD10TJ223	22K	2	
R6046		ERD10TJ102	1K	1	
R6047,6048		ERD10TJ103	10K	2	
R6049		ERD10TJ223	22K	1	
R6050		ERD10TJ473	47K	1	
R6051		ERD10TJ223	22K	1	
R6052		ERD10TJ332	3.3K	1	
R6053		ERD10TJ101	1K	1	
R6054		ERD10TJ223	22K	1	
R6055		ERD10TJ102	1K	1	
R6056,6057		ERD10TJ223	22K	2	
R6058		ERD10TJ332	3.3K	1	
R6059		ERD10TJ223	22K	1	
R6060		ERD10TJ101	100	1	
R6061		ERD10TJ103	10K	1	
R6062,6063		ERD10TJ223	22K	2	
R6064,6065		ERD10TJ103	10K	2	
R6075		ERD10TJ271	270	1	
R6077		ERD10TJ271	270	1	
R6079		ERD10TJ122	1.2K	1	
R6080		ERD10TJ271	270	1	
R6081		ERD10TJ104	100K	1	
R6082		ERD10TJ103	10K	1	
R6083		ERD10TJ104	100K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6084		ERD10TJ103	10K	1	
R6087		ERD10TJ223	22K	1	
R6088-6090		ERD10TJ103	10K	3	
R6091		ERD10TJ152	1.5K	1	
R6092		ERD10TJ104	100K	1	
R6093		ERD10TJ223	22K	1	
R6094		ERD10TJ104	100K	1	
R6095		ERD10TJ223	22K	1	
R6096		ERD10TJ103	10K	1	
R6098		ERD10TJ102	1K	1	
R6099		ERD10TJ103	10K	1	
R6100		ERD10TJ102	1K	1	
R6101-6103		ERD10TJ103	10K	3	
R6104		ERD10TJ152	1.5K	1	
R6105		ERD10TJ103	10K	1	
R6106-6108		ERD10TJ223	22K	3	
R6109		ERD10TJ333	33K	1	
R6110,6111		ERD10TJ563	56K	2	
R6112		ERD10TJ223	22K	1	
R6113		ERD10TJ562	5.6K	1	
R6114		ERD10TJ333	33K	1	
R6115		ERD10TJ104	100K	1	
R6116,6117		ERD10TJ223	22K	2	
R6118		ERD10TJ103	10K	1	
R6119		ERD10TJ822	8.2K	1	
R6120		ERD10TJ333	33K	1	
R6121		ERD10TJ223	22K	1	
R6122		ERD10TJ472	4.7K	1	
R6123		ERD10TJ562	5.6K	1	
R6124		ERD10TJ333	33K	1	
R6125		ERD10TJ332	3.3K	1	
R6126		ERD10TJ223	22K	1	
R6127		ERD10TJ562	5.6K	1	
R6128,6129		ERD10TJ103	10K	2	
R6131		ERD10TJ103	10K	1	
R6132		ERD10TJ223	22K	1	
R6133		ERD10TJ472	4.7K	1	
R6134		ERD10TJ223	22K	1	
R6135		ERD10TJ332	3.3K	1	
R6136		ERD10TJ223	22K	1	
R6137		ERD10TJ332	3.3K	1	
R6138		ERD10TJ822	8.2K	1	
R6139		ERD10TJ333	33K	1	
R6140		ERD10TJ182	1.8K	1	
R6141		ERX1ANJR82H	Metal Oxide 1W 0.82	1	
R6142		ERD10TJ564	560K	1	
R6143		ERD10TJ562	5.6K	1	
R6144,6145		ERD10TJ103	10K	2	
R6146		ERD10TJ223	22K	1	
R6147,6148		ERD10TJ103	10K	2	
R6149-6153		ERD10TJ223	22K	5	
R6154		ERD10TJ103	10K	1	
R6155		ERD10TJ224	220K	1	
R6156		ERD10TJ392	3.9K	1	
R6157		ERD10TJ102	1K	1	
R6158-6161		ERD10TJ103	10K	4	
R6162,6163		ERD10TJ102	1K	2	
R6164,6165		ERD50TJ471	1/2W 470	2	
R6166		ERD10TJ223	22K	1	
R6167		ERD10TJ102	1K	1	
R6170		ERD10TJ102	1K	1	
R6171		ERD10TJ223	22K	1	
R6174		ERD10TJ333	33K	1	
R6176,6177		ERD10TJ103	10K	2	
R6178		ERD10TJ562	5.6K	1	
R6179		ERD10TJ911	910	1	
R6180		ERD10TJ183	18K	1	
R6181		ERD10TJ154	150K	1	
R6182		ERX1ANJ1R0H	Metal Oxide 1W 1	1	
R6184		ERD10TJ103	10K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6185		ERD10TJ223	22K	1	
R6186,6187		ERD10TJ103	10K	2	
R6197		ERD10TJ104	100K	1	
R6198		ERD10TJ103	10K	1	
R6199		ERD10TJ104	100K	1	
R6200,6201		ERD10TJ103	10K	2	
R6202		ERD10TJ223	22K	1	
R6203		ERD10TJ152	1.5K	1	
R6204,6205		ERD10TJ103	10K	2	
R6206		ERD12FJ560	1/2W 56	1	
R6207,6208		ERD10TJ104	100K	2	
R6209,6210		ERD10TJ103	10K	2	
R6211,6212		ERD10TJ563	56K	2	
R6213		ERD10TJ103	10K	1	
R6214		ERD10TJ104	100K	1	
R6215,6216		ERD10TJ103	10K	2	
R6217,6218		ERD10TJ104	100K	2	
R6219,6220		ERD10TJ224	220K	2	
R6221		EVMK0GA00B14	Variable 10K	1	
R6222		ERD10TJ223	22K	1	
R6223		ERD10TJ102	1K	1	
R6224		ERD10TJ103	10K	1	
R6225,6226		ERD10TJ223	22K	2	
R6227		ERD10TJ472	4.7K	1	
R6228		ERD10TJ223	22K	1	
R6229		ERD10TJ682	6.8K	1	
R6231		ERD10TJ223	22K	1	
R6232		ERD10TJ333	33K	1	
R6801,6802		ERD10TJ104	100K	2	
R6803		ERD10TJ273	27K	1	
R6804		ERD10TJ563	56K	1	
R6805,6806		ERD10TJ332	3.3K	2	
R6807		ERD10TJ104	100K	1	
R6808		ERD10TJ103	10K	1	
R6809-6811		ERD10TJ104	100K	3	
R6812		ERD10TJ103	10K	1	
R6813		ERD10TJ104	100K	1	
R6814		ERD10TJ223	22K	1	
R6816		ERD10TJ223	22K	1	
R6817		ERD10TJ333	33K	1	
R6818		ERD10TJ102	1K	1	
R6819		ERD10TJ223	22K	1	
R6823		ERD10TJ183	18K	1	
R6824		ERD10TJ472	4.7K	1	
			Resistor Arrays		
RX6001		EXBP84332K		1	
RX6002		EXBP84223K		1	
RX6003		EXBP86103K		1	
RX6004		EXBP84103K		1	
RX6005		EXBP84332K		1	
RX6006		EXBP84103K		1	
RX6801		EXBP88223K		1	
			Capacitors		
C6001		ECEA0JS470	Electrolytic 6.3V 47	1	
C6002		ECEA0JS101	Electrolytic 6.3V 100	1	
C6003,6004		ECEA1CS221	Electrolytic 16V 220	2	
C6005		ECEA50Z2R2	Electrolytic 50V 2.2	1	
C6006		ECEA0JS470	Electrolytic 6.3V 47	1	
C6007		ECEA1HS010	Electrolytic 50V 1	1	
C6008		ECEA0JS470	Electrolytic 6.3V 47	1	
C6009,6010		ECKF1H103ZF	Ceramic 50V 0.01	2	
C6011,6012		ECEA1HS010	Electrolytic 50V 1	2	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
C6013	ECQV05104JB	Mylar 50V 0.1	1	
C6014	ECEA1CS100	Electrolytic 16V 10	1	
C6015	ECEA50ZR33	Electrolytic 50V 0.33	1	
C6016	ECKF1H103ZF	Ceramic 50V 0.01	1	
C6018	ECEA1HS3R3	Electrolytic 50V 3.3	1	
C6019	ECEA50ZR1	Electrolytic 50V 0.1	1	
C6020	ECKF1H103ZF	Ceramic 50V 0.01	1	
C6021	ECEA1ES4R7	Electrolytic 25V 4.7	1	
C6022	ECEA1CS100	Electrolytic 16V 10	1	
C6801-6803	ECEA1HS010	Electrolytic 50V 1	3	
C6804	ECEA50ZR1	Electrolytic 50V 0.1	1	
C6806	ECKF1H103ZF	Ceramic 50V 0.01	1	
C6807	ECEA0JS470	Electrolytic 6.3V 47	1	
		Connectors		
P6001	VJP1142	3P	1	
P6003	VJP1142	3P	1	
P6004,6005	VJP1145	8P	2	
P6006	VJP1143	5P	1	
P6007,6008	VJP1142	3P	2	
P6009	VJP1143	5P	1	
P6010	VJP1146	10P	1	
P6011	VJP1142	3P	1	
P6012	VJP1143	5P	1	
P6013	VJP1145	8P	1	
P6014	VJP1146	10P	1	
P6015,6016	VJP1145	8P	2	
P6017	VJP1143	5P	1	
P6018,6019	VJP1145	8P	2	
P6020	VJP1144	6P	1	
P6021	VJP1146	10P	1	
P6022	VJP1143	5P	1	
P6023,6024	VJP1145	8P	2	
P6025	VJP1142	3P	1	
P6026,6027	VJP1141	2P	2	
P6028	VJP1142	3P	1	
P6029	VJP1143	5P	1	
P6030	VJP1145	8P	1	
P6031,6032	VJP1142	3P	2	
P6801	VJP1145	8P	1	
P6802	VJP1146	10P	1	
P6803	VJP1143	5P	1	
P6804	VJP1142	3P	1	
		Miscellaneous		
TP6001	VJH23	Test Terminal	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP02147A	Search & Sub System		
		Control (I) P.C. Board		
		Integrated Circuits		
IC2301	μPD4066BC		1	
IC2302,2303	μPC358C		2	
IC2304	μPD1511C048		1	🅝
IC2305	μPC358C		1	
IC2306	μPC393C		1	
IC2307	μPD4011BC		1	
IC6501	AN6914		1	🅝
		Transistors		
Q2304-2309	2SD636		6	(P,Q,R)
Q2310	2SC2206		1	(C)
Q2311-2313	2SD636		3	(P,Q,R)
Q2315	2SD636		1	(P,Q,R)
Q2316,2317	2SB641		2	(P,Q,R)
Q2318	2SD636		1	(P,Q,R)
Q6501	2SD636		1	(P,Q,R)
Q6502	2SB643		1	(P,Q,R)
Q6503	2SD639		1	(P,Q,R)
Q6504	2SD636		1	(P,Q,R)
Q6505	2SD1051		1	(P,Q,R)
Q6506	2SB819		1	(P,Q,R)
Q6507	2SD636		1	(P,Q,R)
Q6508	2SD1051		1	(P,Q,R)
Q6509	2SB819		1	(P,Q,R)
Q6510	2SD636		1	(P,Q,R)
Q6511	2SD836		1	(P,Q,R)
Q6512	2SD636		1	(P,Q,R)
Q6513	2SD1051		1	(P,Q,R)
Q6514	2SB819		1	(P,Q,R)
Q6515	2SD636		1	(P,Q,R)
Q6516	2SD1051		1	(P,Q,R)
Q6517	2SB819		1	(P,Q,R)
Q6518,6519	2SD636		2	(P,Q,R)
Q6520	2SB641		1	(P,Q,R)
Q6521	2SD636		1	(P,Q,R)
		Diodes		
D2303	MA165		1	
D6501-6504	MA165		4	
D6505	RD12EB1		1	
D6506	RD10EB1		1	
D6507	10E1		1	
D6508-6511	MA165		4	
D6512	RD6.2EB1		1	
D6513,6514	MA165		2	
		Resistors		
R2302	ERD10TJ563	56K	1	
R2310	ERD10TJ223	22K	1	
R2314	ERD10TJ223	22K	1	
R2315	ERD10TJ394	390K	1	
R2316	ERD10TJ563	56K	1	
R2317-2320	ERD10TJ393	39K	4	
R2321-2324	ERD10TJ563	56K	4	
R2325	ERD10TJ393	39K	1	
R2330	ERD10TJ103	10K	1	
R2331	ERD10TJ333	33K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2332		ERD10TJ103	10K	1	
R2333		ERD10TJ333	33K	1	
R2334		ERD10TJ103	10K	1	
R2335		ERD10TJ333	33K	1	
R2336		ERD10TJ103	10K	1	
R2337		ERD10TJ333	33K	1	
R2338		ERD10TJ154	150K	1	
R2339		ERD10TJ103	10K	1	
R2340		ERD10TJ562	5.6K	1	
R2342		ERD10TJ333	33K	1	
R2345		ERD10TJ563	56K	1	
R2347		ERD10TJ222	2.2K	1	
R2348		ERD10TJ223	22K	1	
R2349		ERD10TJ563	56K	1	
R2350		ERD10TJ223	22K	1	
R2351		ERD10TJ104	100K	1	
R2352		ERD10TJ332	3.3K	1	
R2353		ERD10TJ683	68K	1	
R2354		ERD10TJ223	22K	1	
R2355		ERD10TJ102	1K	1	
R2356		ERO10TKG5601	Metal Oxide 5.6K	1	🅝
R2357		ERO10TKG3301	Metal Oxide 3.3K	1	🅝
R2358		ERD10TJ393	39K	1	
R2359		ERD10TJ562	5.6K	1	
R2360		ERD10TJ222	2.2K	1	
R2361		ERD10TJ471	470	1	
R2362		ERD10TJ122	1.2K	1	
R2363		ERD10TJ391	390	1	
R2364		ERD10TJ473	47K	1	
R2365		ERD10TJ474	470K	1	
R2366		ERD10TJ152	1.5K	1	
R2367,2368		ERD10TJ103	10K	2	
R2371,2372		ERD10TJ105	1M	2	
R2373		ERD10TJ563	56K	1	
R2374		ERD10TJ122	1.2K	1	
R2375		ERD10TJ563	56K	1	
R2376		ERO10TKG1201	Metal Oxide 1.2K	1	🅝
R2377		ERO10TKG3302	Metal Oxide 33K	1	🅝
R2378		ERD10TJ393	39K	1	
R2379,2380		ERD10TJ563	56K	2	
R2381		ERD10TJ393	39K	1	
R2382		ERD10TJ223	22K	1	
R2383		ERD10TJ224	220K	1	
R2384		ERD10TJ103	10K	1	
R6501		ERD10TJ103	10K	1	
R6502		ERD10TJ152	1.5K	1	
R6503		ERD10TJ103	10K	1	
R6504		ERD50TJ221	1/2W 220	1	
R6505		ERD10TJ103	10K	1	
R6506		ERD50TJ820	1/2W 82	1	
R6507,6508		ERD10TJ473	47K	2	
R6509,6510		ERD10TJ103	10K	2	
R6511		ERD10TJ102	1K	1	
R6512		ERD25TJ471	1/4W 470	1	
R6513		ERD10TJ102	1K	1	
R6514,6515		ERD10TJ103	10K	2	
R6516		ERD10TJ102	1K	1	
R6517		ERD25TJ471	1/4W 470	1	
R6518		ERD10TJ102	1K	1	
R6519,6520		ERD10TJ103	10K	2	
R6521		ERD25TJ821	1/4W 820	1	
R6522		ERD10TJ472	4.7K	1	
R6523		ERD10TJ223	22K	1	
R6524		ERD10TJ102	1K	1	
R6525		ERD25TJ471	1/4W 470	1	
R6526		ERD10TJ102	1K	1	
R6527		ERD10TJ472	4.7K	1	
R6528		ERD10TJ223	22K	1	
R6529		ERD10TJ102	1K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6530		ERD25TJ471	1/4W 470	1	
R6531		ERD10TJ102	1K	1	
R6532		ERD10TJ472	4.7K	1	
R6533		ERD10TJ473	47K	1	
R6534		ERD10TJ223	22K	1	
R6535		ERD10TJ273	27K	1	
R6536		ERD10TJ222	2.2K	1	
R6537		ERD10TJ105	1M	1	
R6538		ERD10TJ474	470K	1	
R6539		ERD10TJ332	3.3K	1	
R6540		ERD10TJ221	220	1	
R6541		ERD10TJ224	220K	1	
R6542,6543		ERD10TJ103	10K	2	
R6544		ERD10TJ104	100K	1	
R6545		ERD10TJ272	3.3K	1	
R6546,6547		ERD10TJ561	560	2	
R6548,6549		ERD10TJ563	56K	2	
R6550		ERD10TJ561	560	1	
R6551,6552		ERD10TJ103	10K	2	
			Resistor Arrays		
RX2301,2302		EXBP87472K	4700x7	2	
RX2303,2304		EXBLD7104G	Ladder	2	🅝
			Capacitors		
C2303,2304		ECEA1ES4R7	Electrolytic 25V 4.7	2	
C2306-2309		ECSF35E1E	Electrolytic 35V 1	4	
C2310		ECQM1H102KZ	Mylar 50V 0.001	1	
C2311		ECEA1HS010	Electrolytic 50V 1	1	
C2312		ECKF1H472KB	Ceramic 50V 0.0047	1	
C2313		ECQM1H103KZ	Mylar 50V 0.01	1	
C2314		ECEA50ZR1	Electrolytic 50V 0.1	1	
C2315		ECKF1H152KB	Ceramic 50V 0.0015	1	
C2319		ECEA1CS100	Electrolytic 16V 10	1	
C2320		ECEA1HS010	Electrolytic 50V 1	1	
C2321		ECKF1H102KB	Ceramic 50V 0.001	1	
C2322		ECKF1H472KB	Ceramic 50V 0.0047	1	
C2323		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2327		ECEA1AS330	Electrolytic 10V 33	1	
C2328		ECQM1H103KZ	Mylar 50V 0.01	1	
C2329		ECEA1CS220	Electrolytic 16V 22	1	
C2330		ECCF1H470KC	Ceramic 50V 47P	1	
C6501,6502		ECEA1HS010	Electrolytic 50V 1	2	
C6503		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6504		ECEA1HS010	Electrolytic 50V 1	1	
C6505		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6506		ECEA1HS010	Electrolytic 50V 1	1	
C6507		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6508		ECEA1HS010	Electrolytic 50V 1	1	
C6509		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6510		ECEA1HS010	Electrolytic 50V 1	1	
C6511		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6512		ECEA1HS010	Electrolytic 50V 1	1	
C6513		ECEA50ZR47	Electrolytic 50V 0.47	1	
			Coils		
L2303		VLQ80F101K	Peaking 100μH	1	
L2304		VLQEL06F390K	39μH	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
		Connectors		
P2301	VJP1143	5P	1	
P2302	VJP1147	12P	1	
P2303	VJP1145	8P	1	
P2304	VJP1142	3P	1	
P2305	VJP1143	5P	1	
P6501	VJP1145	8P	1	
P6502	VJP1143	5P	1	
P6503	VJP1147	12P	1	
		Miscellaneous		
TP2302-2308	VJH0096Z		8	
GND				
	VEP06162A	Remaining Tape Time Display & Sub System Control (II) P.C. Board		
		Integrated Circuits		
IC6701	MN1405VUB		1	🅝
IC6702	HD74LS90P		1	🅝
IC6703-6705	μPD4019BC		3	
IC6706	MSL915RS		1	
IC6901	AN6345		1	
IC6902	μPC4558C		1	
IC6903	μPD4011BC		1	
IC6904	M54819L		1	
		Transistors		
Q6701	2SD636		1	(P,Q,R,S)
Q6702-6707	2SA1023		6	(P,Q,R,S)
Q6708	2SD636		1	(P,Q,R,S)
Q6709	2SC2206		1	(B,C)
Q6710	2SD636		1	(P,Q,R,S)
Q6711-6713	2SD636		3	(P,Q,R,S)
Q6901-6903	2SD636		3	(P,Q,R,S)
Q6904	2SD639		1	(P,Q,R)
Q6905	2SC1847V		1	(Q,R)
Q6906	2SD639		1	(P,Q,R)
Q6907	2SD637		1	(P,Q,R)
Q6908	2SD636		1	(P,Q,R,S)
Q6909	2SJ43		1	🅝
Q6910-6914	2SD636		5	(P,Q,R,S)
Q6915	2SB641		1	(P,Q,R)
Q6916-6919	2SD636		4	(P,Q,R,S)
Q6920	2SB641		1	(P,Q,R)

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
Q6921-6923	2SD636		3	(P,Q,R,S)
		Diodes		
D6701-6711	MA165		11	
D6901	10E1		1	
D6902-6905	MA165		4	
D6906,6907	10E1		2	
D6908-6928	MA165		21	
D6930,6931	MA165		2	
		Resistors		
R6701,6702	ERD10TJ223	22K	2	
R6703,6704	ERD10TJ472	4.7K	2	
R6705,6706	ERD10TJ273	27K	2	
R6707	ERD10TJ473	47K	1	
R6708,6709	ERD10TJ273	27K	2	
R6710	ERD10TJ473	47K	1	
R6711,6712	ERD10TJ273	27K	2	
R6713	ERD10TJ473	47K	1	
R6714,6715	ERD10TJ273	27K	2	
R6716	ERD10TJ473	47K	1	
R6717,6718	ERD10TJ273	27K	2	
R6719	ERD10TJ473	47K	1	
R6720,6721	ERD10TJ273	27K	2	
R6722	ERD10TJ473	47K	1	
R6723	ERD10TJ223	22K	1	
R6724	ERD10TJ473	47K	1	
R6725	ERD10TJ333	33K	1	
R6726	ERD10TJ102	1K	1	
R6727	ERD10TJ683	68K	1	
R6728	ERD10TJ223	22K	1	
R6729-6731	ERD10TJ102	1K	3	
R6732	ERD10TJ104	100K	1	
R6733	ERD10TJ684	680K	1	
R6734	ERD10TJ104	100K	1	
R6735	ERD10TJ563	56K	1	
R6736	ERD10TJ103	10K	1	
R6737	ERD10TJ221	220	1	
R6738,6739	ERD10TJ103	10K	2	
R6740	ERD10TJ154	150K	1	
R6741	ERD10TJ104	100K	1	
R6742	ERD10TJ103	10K	1	
R6743	ERD10TJ104	100K	1	
R6744	ERD10TJ823	82K	1	
R6745	ERD10TJ682	6.8K	1	
R6746	ERD10TJ183	18K	1	
R6747	ERD10TJ223	22K	1	
R6748	ERD25TJ332	1/4W 3.3K	1	
R6901,6902	ERD10TJ103	10K	2	
R6903	ERD10TJ563	56K	1	
R6904	ERD10TJ103	10K	1	
R6905	ERD10TJ152	1.5K	1	
R6906	ERD10TJ562	5.6K	1	
R6907	ERD10TJ223	22K	1	
R6908	ERD10TJ102	1K	1	
R6910	ERD10TJ103	10K	1	
R6911	ERD10TJ223	22K	1	
R6912	ERD10TJ103	10K	1	
R6913	ERD25TJ681	1/4W 680	1	
R6914	ERD25VJ562	1/4W 5.6K	1	
R6915	ERD10TJ333	33K	1	
R6916	ERD25VJ333	1/4W 33K	1	
R6917,6918	ERD10TJ333	33K	2	
R6919	ERD10TJ473	47K	1	
R6920	ERD10TJ153	15K	1	
R6921	ERD10TJ223	22K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6922		ERD10TJ564	560K	1	
R6923		ERD10TJ153	15K	1	
R6924		ERD10TJ223	22K	1	
R6925		ERD10TJ222	2.2K	1	
R6926		ERD25TJ125	1/4W 1.2M	1	
R6927		ERD25TJ224	1/4W 220K	1	
R6928		EVN38CA00B54	Variable 50K	1	
R6929		ERD25TJ154	1/4W 150K	1	
R6930		ERD10TJ394	390K	1	
R6931		ERD10TJ392	3.9K	1	
R6933		ERD10TJ223	22K	1	
R6934		ERD10TJ683	68K	1	
R6935,6936		ERD10TJ104	100K	2	
R6937		ERD10TJ683	68K	1	
R6938,6939		ERD10TJ104	100K	2	
R6940		ERD10TJ683	68K	1	
R6941,6942		ERD10TJ104	100K	2	
R6943		ERD10TJ473	47K	1	
R6944		ERD10TJ273	27K	1	
R6945		ERD10TJ333	33K	1	
R6946		ERD10TJ153	15K	1	
R6947		ERD10TJ223	22K	1	
R6948		ERD10TJ563	56K	1	
R6949		ERD10TJ333	33K	1	
R6950		ERD10TJ563	56K	1	
R6951		ERD10TJ333	33K	1	
R6952		ERD10TJ104	100K	1	
R6953		ERD10TJ683	68K	1	
R6954		ERD10TJ152	1.5K	1	
R6955		ERD10TJ333	33K	1	
R6956		ERD10TJ393	39K	1	
R6958		ERD10TJ563	56K	1	
R6959		ERD10TJ393	39K	1	
R6960		ERD10TJ683	68K	1	
R6961		ERD10TJ823	82K	1	
R6962		ERD10TJ103	10K	1	
R6963		ERD10TJ273	27K	1	
R6964-6966		ERD10TJ683	68K	3	
R6967		ERD10TJ393	39K	1	
R6969		ERD10TJ682	6.8K	1	
R6971,6972		ERD10TJ333	33K	2	
R6974		ERD10TJ563	56K	1	
R6975		ERD10TJ333	33K	1	
R6976-6978		ERD10TJ103	10K	3	
R6979		ERD10TJ333	33K	1	
R6980		ERD25VJ104	1/4W 100K	1	
			Capacitors		
C6701		ECKF1H152KB	Ceramic 50V 0.0015	1	
C6702		ECEA0JS470	Electrolytic 6.3V 47	1	
C6703		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6704		ECEA1HS010	Electrolytic 50V 1	1	
C6705		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C6706		ECEA0JS470	Electrolytic 6.3V 47	1	
C6707-6709		ECKF1H103ZF	Ceramic 50V 0.01	3	
C6710		ECKF1H221KB	Ceramic 50V 220P	1	
C6901		ECEA1CS220	Electrolytic 16V 22	1	
C6902		ECQV05104JB	Mylar 50V 0.1	1	
C6903-6905		ECEA1CS100	Electrolytic 16V 10	3	
C6906		ECEA1CN100	Electrolytic 16V 10	1	
C6907		ECQM1H682JZ	Mylar 50V 0.0068	1	
C6908		ECQV05154JZ	Mylar 50V 0.15	1	
C6909		ECEA1CS220	Electrolytic 16V 22	1	
C6910,6911		ECQV05104JB	Mylar 50V 0.1	2	
C6912		ECQV05474JZ	Mylar 50V 0.47	1	
C6913		ECEA1CN100	Electrolytic 16V 10	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C6914		ECEA1HS2R2	Electrolytic 50V 2.2	1	
			Connectors		
P6701		VJP1147		1	
P6702		VJP1145		1	
P6703		VJP1142		1	
P6704		VJP1147		1	
P6705,6706		VJP1143		2	
P6707		VJP1144		1	
P6901		VJP1147		1	
P6902		VJP1142		1	
			Miscellaneous		
L6701		VLQ80F101K	Inductor 100μH	1	
TP6901-6903		VJH0096Z	Test Terminal	3	
		VEP06163A1	Sub System Control (III)		
			P.C. Board		
			Integrated Circuit		
IC6250		μPC339C		1	
			Transistors		
Q6250,6251		2SD636		2	(P,Q,R)
			Diodes		
D6250-6264		MA165		15	
			Resistors		
R6250		ERD10TJ563	56K	1	
R6251		ERD10TJ154	150K	1	
R6252		ERD10TJ392	3.9K	1	
R6253,6254		ERD10TJ104	100K	2	
R6255		ERD10TJ563	56K	1	
R6256		ERD10TJ224	220K	1	
R6257,6258		ERD10TJ562	5.6K	2	
R6259		ERD10TJ224	220K	1	
R6260		ERD10TJ563	56K	1	
R6261,6262		ERD10TJ103	10K	2	
R6263		ERD10TJ333	33K	1	
R6264		ERD10TJ392	3.9K	1	
R6265		ERD10TJ124	120K	1	
R6266		ERD10TJ223	22K	1	
R6267		ERD10TJ104	100K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C6250-6252		ECEA1CS220	Electrolytic 16V 22	3	
			Connectors		
P6250		VJP1144	6P	1	
P6251		VJP1145	8P	1	
		VEP02145A	Servo & Index(II)		
			P.C.Board		
			Integrated Circuits		
IC2001		AN6350		1	
IC2002		AN6677		1	
IC2003		BA223		1	
IC2004		BA634		1	Ⓝ
IC2005		BA223		1	Ⓝ
IC2007		µPD4053BC		1	
IC2008		AN6345		1	
IC2009		AN6341N		1	
IC2010		AN6675		1	Ⓝ
IC2011,2012		M54819L		2	
IC2013		µPD4053BC		1	
IC2014		M54819L		1	
IC2015,2016		µPC4558C		2	
IC2017		µPD4030BC		1	Ⓝ
IC2018		µPD4011BC		1	
IC2019		µPC4558C		1	
			Transistors		
Q2001-2003		2SD636		3	(P,Q,R)
Q2004,2005		2SD889		2	(P,Q,R)
Q2006		2SD636		1	(P,Q,R)
Q2007		2SB641		1	(P,Q,R)
Q2008		2SD636		1	(P,Q,R)
Q2009		2SD889		1	(P,Q,R)
Q2010,2011		2SD636		2	(P,Q,R)
Q2012-2014		2SB641		3	(P,Q,R)
Q2015		2SC1983		1	(P,Q,R)
Q2016-2018		2SD636		3	(P,Q,R)

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
Q2019		2SB641		1	(P,Q,R)
Q2020-2027		2SD636		8	(P,Q,R)
Q2028-2031		2SB641		4	(P,Q,R)
Q2032		2SD636		1	(P,Q,R)
Q2033		2SB641		1	(P,Q,R)
Q2035-2037		2SD636		3	(P,Q,R)
Q2038		2SJ43		1	Ⓝ
Q2039		2SD636		1	(P,Q,R)
Q2040		2SB642		1	(P,Q,R)
Q2041,2042		2SD636		2	(P,Q,R)
Q2043,2044		2SB641		2	(P,Q,R)
Q2045-2057		2SD636		13	(P,Q,R)
Q2058		2SB641		1	(P,Q,R)
Q2059,2060		2SD636		2	(P,Q,R)
Q2061		2SJ43		1	Ⓝ
Q6651,6652		2SD636		2	(P,Q,R)
Q6653		2SB641		1	(P,Q,R)
Q6654		2SD636		1	(P,Q,R)
Q6655		2SA886V		1	(Q,R)
Q6656,6657		2SD636		2	(P,Q,R)
Q6658		2SC18470		1	(Q,R)
Q6659		2SA886V		1	(Q,R)
			Diodes		
D2001-2027		MA165		27	
D2029-2034		MA165		6	
D2035		RD5.1EB		1	
D2036		MA27W		1	
D2037-2040		MA165		4	
D2041		RD16JB		1	
D2042-2047		MA165		6	
D2048		RD6.2EB		1	
D2049-2076		MA165		28	
D2080,2081		MA165		2	
D6651-6654		MA165		4	
			Resistors		
R2001		ERD10TJ563	56K	1	
R2002		ERD10TJ273	27K	1	
R2003		ERD10TJ102	1K	1	
R2004		ERD10TJ103	10K	1	
R2005		ERD10TJ333	33K	1	
R2006		ERD10TJ104	100K	1	
R2007		ERD10TJ562	5.6K	1	
R2008		ERD10TJ563	56K	1	
R2009		ERD10TJ273	27K	1	
R2010		ERD10TJ332	3.3K	1	
R2011		EVN38CA00B54	Variable 50K	1	
R2012,2013		ERD10TJ104	100K	2	
R2014		ERD10TJ332	3.3K	1	
R2015		ERD10TJ154	150K	1	
R2016,2017		ERD10TJ105	1M	2	
R2018		ERD10TJ682	6.8K	1	
R2019		EVNK6AA00B54	Variable 50K	1	
R2020		ERD10TJ682	6.8K	1	
R2021		EVNK6AA00B54	Variable 50K	1	
R2022		ERD10TJ333	33K	1	
R2023		EVNK6AA00B15	Variable 100K	1	
R2024		ERD10TJ822	8.2K	1	
R2025		ERD10TJ103	10K	1	
R2026		ERD25TG683	1/4W 68K	1	
R2027		ERD25TG184	1/4W 180K	1	
R2028		ERD10TJ332	3.3K	1	
R2029		ERD25TG472	1/4W 4.7K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2030		ERD10TJ221	220	1	
R2031		ERD10TG182	1.8K	1	
R2032		ERD10TJ152	1.5K	1	
R2033		ERD10TJ561	560	1	
R2034		ERD10TJ273	27K	1	
R2035		ERD10TJ471	470	1	
R2036		ERD10TJ153	15K	1	
R2037		ERD10TJ104	100K	1	
R2038		ERD10TJ102	1K	1	
R2039		ERD10TJ222	2.2K	1	
R2040		ERD10TJ154	150K	1	
R2041		ERD10TJ152	1.5K	1	
R2042		ERD10TJ104	100K	1	
R2043		ERD10TJ223	22K	1	
R2044		ERD25TG682	1/4W 6.8K	1	
R2045		ERC14GJ225D	1/4W 2.2M	1	
R2046		ERD10TJ473	47K	1	
R2047		ERD10TJ103	10K	1	
R2048		ERD25TG683	1/4W 68K	1	
R2049		ERD10TJ102	1K	1	
R2050		EVN38CA00B24	Variable 20K	1	
R2051		ERD10TJ223	22K	1	
R2052		ERD10TJ154	150K	1	
R2053		ERD10TJ102	1K	1	
R2054		EVN38CA00B24	Variable 20K	1	
R2055		ERD10TJ223	22K	1	
R2056		ERD10TJ154	150K	1	
R2057		ERD10TJ102	1K	1	
R2058		EVN38CA00B24	Variable 20K	1	
R2059		ERD10TJ223	22K	1	
R2060		ERD10TJ154	150K	1	
R2061		ERD10TJ332	3.3K	1	
R2062		ERX12ANJR68P	Metal Oxide 1/2W 0.68	1	
R2063-2065		ERD25TJ220	1/4W 22	3	
R2066		ERD10TJ124	120K	1	
R2067		ERD10TJ153	15K	1	
R2068,2069		ERD10TJ104	100K	2	
R2070,2071		ERD10TJ563	56K	2	
R2072		ERD10TJ104	100K	1	
R2073		ERD10TJ683	68K	1	
R2074		EVNK6AA00B24	Variable 20K	1	
R2075		ERD10TJ823	82K	1	
R2076		ERD10TJ103	10K	1	
R2077		ERD10TJ563	56K	1	
R2078		ERD10TJ123	12K	1	
R2079		ERD10TJ104	100K	1	
R2080		ERD10TJ103	10K	1	
R2081		ERD10TJ223	22K	1	
R2082		ERD10TJ103	10K	1	
R2083		ERD10TJ333	33K	1	
R2084,2085		ERD10TJ223	22K	2	
R2086		ERD10TJ154	150K	1	
R2087		ERD10TJ473	47K	1	
R2088		EVNK6AA00B15	Variable 100K	1	
R2089		ERD10TJ153	15K	1	
R2090		ERD10TJ103	10K	1	
R2091		ERD10TJ183	18K	1	
R2092		ERC14GJ685D	1/4W 6.8M	1	
R2093		ERD25TG823	1/4W 82K	1	
R2094		ERD25TG333	1/4W 33K	1	
R2095		ERD10TJ332	3.3K	1	
R2096		ERD25TG392	1/4W 3.9K	1	
R2097		ERD25TG122	1/4W 1.2K	1	
R2098,2099		ERD10TJ391	390	2	
R2100		ERD25TG122	1/4W 1.2K	1	
R2101,2102		ERD10TJ103	10K	2	
R2103		ERD10TJ154	150K	1	
R2104,2105		ERD10TJ473	47K	2	
R2106		ERD10TJ223	22K	1	
R2107		ERD10TJ154	150K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2108		ERD10TJ223	22K	1	
R2109		ERD10TJ154	150K	1	
R2110		ERD10TJ103	10K	1	
R2111		ERD10TJ104	100K	1	
R2112		ERD10TJ103	10K	1	
R2113		ERD10TJ104	100K	1	
R2115		EVN38CA00B24	Variable 20K	1	
R2116		ERD10TJ223	22K	1	
R2117		EVN38CA00B24	Variable 20K	1	
R2118		ERD10TJ223	22K	1	
R2119		EVN38CA00B24	Variable 20K	1	
R2120		ERD10TJ223	22K	1	
R2121		EVN38CA00B24	Variable 20K	1	
R2122		ERD10TJ223	22K	1	
R2123		ERC14GJ225D	1/4W 2.2M	1	
R2124		ERD25TG332	1/4W 3.3K	1	
R2125		ERD25TG682	1/4W 6.8K	1	
R2126		ERD10TJ103	10K	1	
R2127		ERD10TJ563	56K	1	
R2128		ERD10TJ154	150K	1	
R2129		ERD10TJ273	27K	1	
R2130		ERD10TJ122	1.2K	1	
R2131		ERD10TJ152	1.5K	1	
R2132		ERD10TJ392	3.9K	1	
R2133		ERD10TJ122	1.2K	1	
R2134		ERD10TJ272	2.7K	1	
R2135		ERD10TJ102	1K	1	
R2136,2137		ERD10TJ103	10K	2	
R2138		ERD25TJ220	1/4W 22	1	
R2139		ERD10TJ562	5.6K	1	
R2140		ERX1ANJ1R3H	Metal Oxide 1W 1.3	1	
R2141		ERD10TJ102	1K	1	
R2142		ERG2ANJ221H	Metal Oxide 2W 220	1	
R2143		ERX12ANJ5R6P	Metal Oxide 1/2W 5.6	1	
R2144		ERD10TJ392	3.9K	1	
R2145,2146		ERD25TJ220	1/4W 22	2	
R2147		ERD10TJ103	10K	1	
R2148		ERD25TJ100	1/4W 10	1	
R2149		ERD10TJ223	22K	1	
R2150,2151		ERD10TJ103	10K	2	
R2152,2153		ERD10TJ333	33K	2	
R2154		ERD10TJ563	56K	1	
R2155		ERD10TJ123	12K	1	
R2156		ERD25TJ102	1/4W 1K	1	
R2157		ERD10TJ103	10K	1	
R2158		ERD10TJ104	100K	1	
R2159		ERD10TJ563	56K	1	
R2160		ERD10TJ104	100K	1	
R2161		ERD10TJ563	56K	1	
R2162		ERD10TJ332	3.3K	1	
R2163		ERD10TJ103	10K	1	
R2164		ERD10TJ104	100K	1	
R2165		ERD10TJ563	56K	1	
R2166		ERD10TJ103	10K	1	
R2167		ERD10TJ104	100K	1	
R2168		ERD10TJ563	56K	1	
R2169		ERD10TJ124	120K	1	
R2170		ERD10TJ393	39K	1	
R2171		ERD10TJ333	33K	1	
R2172,2173		ERD10TJ103	10K	2	
R2174		ERD10TJ154	150K	1	
R2175		ERD10TJ103	10K	1	
R2176,2177		ERD10TJ154	150K	2	
R2178		ERD10TJ103	10K	1	
R2179		ERD10TJ224	220K	1	
R2180		ERD10TJ104	100K	1	
R2181		ERD10TJ103	10K	1	
R2182		ERD10TJ824	820K	1	
R2183		ERD10TJ101	100	1	
R2184		ERD10TJ563	56K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2185,2186		ERD10TJ103	10K	2	
R2187,2188		ERD10TJ104	100K	2	
R2189		ERD10TJ103	10K	1	
R2190		ERD10TJ563	56K	1	
R2191		ERD10TJ154	150K	1	
R2192		ERD10TJ473	47K	1	
R2193		ERD10TJ223	22K	1	
R2194		ERD10TJ105	1M	1	
R2195		ERD10TJ153	15K	1	
R2196		ERD10TJ103	10K	1	
R2197		ERD10TJ682	6.8K	1	
R2198		ERD10TJ104	100K	1	
R2199		ERD10TJ563	56K	1	
R2200		ERD10TJ104	100K	1	
R2201		ERD10TJ333	33K	1	
R2202		ERD10TJ103	10K	1	
R2203		ERD10TJ563	56K	1	
R2204		ERD10TJ682	6.8K	1	
R2205		ERD10TJ103	10K	1	
R2206		ERD10TJ104	100K	1	
R2207		ERD10TJ102	1K	1	
R2208		EVNK6AA00B13	Variable 1K	1	
R2209		ERD10TJ103	10K	1	
R2210		ERD10TJ104	100K	1	
R2211		ERD10TJ103	10K	1	
R2212		ERD10TJ334	330K	1	
R2214		ERD10TJ104	100K	1	
R2215		ERD10TJ563	56K	1	
R2216,2217		ERD10TJ223	22K	2	
R2218		ERD10TJ153	15K	1	
R2219		ERD10TJ821	820	1	
R2220		ERD10TJ333	33K	1	
R2221		ERD10TJ181	180	1	
R2222		ERD10TJ333	33K	1	
R2223		ERD10TJ104	100K	1	
R2224		ERD10TJ473	47K	1	
R2225		ERD10TJ681	680	1	
R2226		ERD10TJ333	33K	1	
R2227		ERD10TJ223	22K	1	
R2228		ERD10TJ563	56K	1	
R2229		ERD10TJ104	100K	1	
R2230		ERD10TJ473	47K	1	
R2231		ERD10TJ563	56K	1	
R2232		ERD10TJ273	27K	1	
R2233		ERD10TJ104	100K	1	
R2234		ERD10TJ473	47K	1	
R2235		ERD10TJ333	33K	1	
R2236		ERD10TJ153	15K	1	
R2237		ERD10TJ472	4.7K	1	
R2238		ERD10TJ103	10K	1	
R2239		ERD10TJ104	100K	1	
R2240		ERD10TJ102	1K	1	
R2241		ERD10TJ333	33K	1	
R2242		ERD10TJ333	33K	1	
R2245		ERD10TJ105	1M	1	
R2246		ERD10TJ562	5.6K	1	
R2247		ERD10TJ563	56K	1	
R2248		ERD10TJ103	10K	1	
R2249,2250		ERD10TJ104	100K	2	
R2251		ERD10TJ474	470K	1	
R2252,2253		ERD10TJ104	100K	2	
R2254		ERD10TJ123	12K	1	
R2255		ERD10TJ332	3.3K	1	
R2256-2259		ERD10TJ563	56K	4	
R2260		ERD10TJ105	1M	1	
R6651		ERD10TJ103	10K	1	
R6652		ERD10TJ221	220	1	
R6653		ERD10TJ393	39K	1	
R6654		ERD10TJ273	27K	1	
R6655,6656		ERD10TJ333	33K	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6657,6658		ERD10TJ103	10K	2	
R6659		ERD10TJ273	27K	1	
R6660		ERD10TJ221	220	1	
R6661		ERD10TJ153	15K	1	
R6662		ERD10TJ682	6.8K	1	
R6663		ERD10TJ152	1.5K	1	
R6664		ERD10TJ103	10K	1	
R6665		ERD10TJ471	470	1	
R6666		ERD10TJ822	8.2K	1	
R6667		ERD10TJ103	10K	1	
R6668		ERD10TJ153	15K	1	
R6669		ERD10TJ102	1K	1	
R6670		ERG2ANJ150H	Metal Oxide 2W 15	1	
			Capacitors		
C2001		ECQM1H103KZ	Mylar 50V 0.01	1	
C2002		ECEA1HS010	Electrolytic 50V 1	1	
C2003		ECQM1H472KZ	Mylar 50V 0.0047	1	
C2004		ECQV05184JZ	Mylar 50V 0.18	1	
C2005		ECQM1H563KV	Mylar 50V 0.056	1	
C2006		ECEA50ZR22	Electrolytic 50V 0.22	1	
C2007,2008		ECEA1HS010	Electrolytic 50V 1	2	
C2009,2010		ECQM1H683KV	Mylar 50V 0.068	2	
C2011		ECQM1H273KZ	Mylar 50V 0.027	1	
C2012,2013		ECQV05104JB	Mylar 50V 0.1	2	
C2014		ECEA16Z100	Electrolytic 16V 10	1	
C2015		ECQM1H103KZ	Mylar 50V 0.01	1	
C2016		ECEA50ZR33	Electrolytic 50V 0.33	1	
C2017		ECQM1H472KZ	Mylar 50V 0.0047	1	
C2018		ECEA1CS100	Electrolytic 16V 10	1	
C2019		ECEA1CS101	Electrolytic 16V 100	1	
C2020		ECEA50ZR1	Electrolytic 50V 0.1	1	
C2021		ECEA1AS101	Electrolytic 16V 100	1	
C2022		ECQM1H333KS	Mylar 50V 0.033	1	
C2023		ECEA1CS470	Electrolytic 16V 47	1	
C2024,2025		ECQV05104JB	Mylar 50V 0.1	2	
C2026		ECQM1H683JV	Mylar 50V 0.068	1	
C2027		ECQV05124JZ	Mylar 50V 0.12	1	
C2028		ECQV05104JB	Mylar 50V 0.1	1	
C2029		ECEA1CS470	Electrolytic 16V 47	1	
C2030-2032		ECEA1HN010	Electrolytic 50V 1	3	
C2033		ECQM1H103KZ	Mylar 50V 0.01	1	
C2034		ECQM1H333KS	Mylar 50V 0.03	1	
C2035		ECSF16E3R3E	Ceramic 16V 3.3	1	
C2036		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C2037-2039		ECEA50ZR22	Electrolytic 50V 0.22	3	
C2040		ECQM1H822KZ	Mylar 50V 0.0082	1	
C2041		ECEA1CS100	Electrolytic 16V 10	1	
C2042		ECQM1H102KZ	Mylar 50V 0.001	1	
C2043		ECQM1H103KZ	Mylar 50V 0.01	1	
C2044		ECQM1H473KV	Mylar 50V 0.047	1	
C2045		ECQM1H563KV	Mylar 50V 0.056	1	
C2046		ECQV05184JZ	Mylar 50V 0.18	1	
C2047		ECEA1CS100	Electrolytic 16V 10	1	
C2048		ECEA1HS010	Electrolytic 50V 1	1	
C2049		ECQM1H393KS	Mylar 50V 0.039	1	
C2050		ECQM1H223KZ	Mylar 50V 0.022	1	
C2051		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C2052		ECQM1H103KZ	Mylar 50V 0.01	1	
C2053		ECEA1HS010	Electrolytic 25V 1	1	
C2054		ECQV05274JZ	Mylar 50V 0.27	1	
C2055,2056		ECQV05104JB	Mylar 50V 0.1	2	
C2057		ECEA1AS101	Electrolytic 10V 100	1	
C2058		ECEA1CS100	Electrolytic 16V 10	1	
C2059		ECQM1H823JV	Mylar 50V 0.082	1	
C2060		ECQM1H473KV	Mylar 50V 0.047	1	
C2061		ECQM1H123JZ	Mylar 50V 0.012	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C2062		ECQM1H473KV	Mylar 50V 0.047	1	
C2063,2064		ECEA1CS330	Electrolytic 16V 33	2	
C2065		ECEA50ZR1	Electrolytic 50V 0.1	1	
C2066		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C2067		ECEA50Z2R2	Electrolytic 50V 2.2	1	
C2068-2070		ECQM1H103KZ	Mylar 50V 0.01	3	
C2071		ECEA1ES221	Electrolytic 25V 220	1	
C2072		ECEA50ZR33	Electrolytic 50V 0.33	1	
C2073,2074		ECEA50Z2R2	Electrolytic 50V 2.2	2	
C2075		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C2076		ECQV05104JB	Mylar 50V 0.1	1	
C2077		ECEA1ES221	Electrolytic 25V 220	1	
C2078,2079		ECEA50ZR33	Electrolytic 50V 0.33	2	
C2080		ECQM1H103KZ	Mylar 50V 0.01	1	
C2081,2082		ECKF1H151KB	Ceramic 50V 150P	2	
C2083		VCKW1H101JS	Ceramic 50V 100P	1	
C2084		VCKW1H221JS	Ceramic 50V 220P	1	
C2085		ECQV05184JZ	Mylar 50V 0.18	1	
C2086		ECQM1H103KZ	Mylar 50V 0.01	1	
C2087		ECEA1HS010	Electrolytic 50V 1	1	
C2089		ECQV05154JZ	Mylar 50V 0.15	1	
C2090		ECQM1H103KZ	Mylar 50V 0.01	1	
C2091,2092		ECEA1CS470	Electrolytic 16V 47	2	
C2093		ECEA1HS010	Electrolytic 50V 1	1	
C2094		ECEA1CS470	Electrolytic 16V 47	1	
C2095		ECQM1H392KZ	Mylar 50V 0.0039	1	
C6651		ECEA0JS470	Electrolytic 6.3V 47	1	
C6652		ECEA1CS220	Electrolytic 16V 22	1	
C6653,6654		ECKF1H103ZF	Ceramic 50V 0.01	2	
C6655		ECQV05334JZ	Mylar 50V 0.33	1	
C6656		ECEA1CS471	Electrolytic 16V 470	1	
			Coils		
L2001,2002		VLQ80F102K		2	
			Connectors		
P2001		VJP1144	6P	1	
P2002		VJP1141	2P	1	
P2003		VJP1143	5P	1	
P2004-2009		VJP1147	12P	6	
P6651		VJP1142	3P	1	
JA,JB		VJS1180	5P	2	
			Test Terminals		
TP2001-2007		VJH0096Z		7	
TP2009-2017		VJH0096Z		8	
GND		VJH0096Z		1	
			Miscellaneous		
		VSC0618	Heat Sink	1	
		VSC0522	Heat Sink	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP02146A1	Pattern Generator		
			P.C. Board		
			Integrated Circuits		
IC2501		MN6067		1	🅝
IC2502-2504		μPC4558C		3	
IC2505,2506		μPD4066BC		2	
IC2507		μPC4558C		1	
IC2508,2509		μPD4066BC		2	
IC2510		BA222		1	🅝
IC2511,2512		μPC4558C		2	
IC2513		μPC358C		1	🅝
IC2514		μPD4066BC		1	
IC2515		μPD4081C		1	
IC2516		AN360		1	
IC2517-2519		μPC4558C		3	
IC2520		AN6913		1	
IC2521		μPD4066BC		1	
IC2522		μPC4558C		1	
IC2523		BA223		1	🅝
IC2524		BA222		1	🅝
IC2525		BA223		1	🅝
			Transistors		
Q2501,2502		2SD636		2	(P,Q,R)
Q2503		2SB641		1	(P,Q,R)
Q2504-2507		2SD636		4	(P,Q,R)
Q2508		2SB641		1	(P,Q,R)
Q2509		2SD636		1	(P,Q,R)
Q2510		2SB641		1	(P,Q,R)
Q2511,2512		2SD636		2	(P,Q,R)
Q2513		2SJ43		1	(Q,R) 🅝
Q2515		2SJ43		1	(Q,R) 🅝
Q2516-2526		2SD636		11	(P,Q,R)
Q2528,2529		2SD636		2	(P,Q,R)
Q2530,2531		2SB641		2	(P,Q,R)
Q2532		2SK301		1	🅝
Q2533-2535		2SD636		3	(P,Q,R)
Q2537-2543		2SD636		7	(P,Q,R)
Q2545,2546		2SD636		2	(P,Q,R)
Q2548-2550		2SJ43		3	(Q,R) 🅝
			Diodes		
D2501-2512		MA165		12	
D2513		RD10JB		1	
D2514-2524		MA165		11	
D2525		RD6.2EB	Zener	1	
D2526-2530		MA165		5	
D2532		MA165		1	
D2535-2540		MA165		6	
			Resistors		
R2501		ERD10TJ223	22K	1	
R2502,2503		ERD10TJ103	10K	2	
R2504		ERD10TJ472	4.7K	1	
R2505		ERD10TJ562	5.6K	1	
R2506		ERD10TJ563	56K	1	
R2507-2509		ERD10TJ562	5.6K	3	
R2510		ERD10TJ272	2.7K	1	
R2511		ERD10TJ562	5.6K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2512		ERD10TJ223	22K	1	
R2513,2514		ERD10TJ103	10K	2	
R2515		ERD10TJ472	4.7K	1	
R2516		ERD10TJ562	5.6K	1	
R2517		ERD10TJ563	56K	1	
R2518-2520		ERD10TJ562	5.6K	3	
R2521		ERD10TJ272	2.7K	1	
R2522		ERD10TJ562	5.6K	1	
R2523,2524		ERO10TKG2702	27K	2	Ⓝ
R2525		ERD10TJ124	120K	1	
R2526		ERD10TJ273	27K	1	
R2527		EVNK6AA00B53	Variable 5K	1	
R2528		ERD10TJ223	22K	1	
R2529		ERD10TJ681	680	1	
R2530		ERSB27G222	2.2K	1	
R2531		ERO10TKG2701	2.7K	1	Ⓝ
R2532		ERSB27G222	2.2K	1	
R2533		ERD10TJ124	120K	1	
R2534,2535		EVN38CA00B24	Variable 20K	2	
R2536		ERD10TJ273	27K	1	
R2537		EVNK6AA00B53	Variable 5K	1	
R2538		ERD10TJ223	22K	1	
R2539		ERD10TJ681	680	1	
R2540		ERO10TKG2701	2.7K	1	Ⓝ
R2541		ERD10TJ104	100K	1	
R2542		ERD10TJ273	27K	1	
R2543,2544		ERD10TJ274	270K	2	
R2545		ERD10TJ104	100K	1	
R2546		ERD10TJ273	27K	1	
R2547		ERD10TJ154	150K	1	
R2548		ERD10TJ184	180K	1	
R2551		ERO10TKG2702	27K	1	Ⓝ
R2552		ERD10TJ122	1.2K	1	
R2553		ERD10TJ184	180K	1	
R2556		ERD10TJ122	1.2K	1	
R2557		ERO10TKG1502	15K	1	Ⓝ
R2558		ERD10TJ103	10K	1	
R2559		ERD10TJ102	1K	1	
R2560		ERD10TJ563	56K	1	
R2561		ERD10TJ102	1K	1	
R2562		ERD10TJ563	56K	1	
R2563		ERD10TJ103	10K	1	
R2564		ERD10TJ473	47K	1	
R2565		ERD10TJ103	10K	1	
R2566		ERD10TJ183	18K	1	
R2567		ERD10TJ154	150K	1	
R2568		ERD10TJ183	18K	1	
R2569		ERO10TKG2702	27K	1	Ⓝ
R2570		ERO10TKG5602	56K	1	Ⓝ
R2571		EVN38CA00B54	Variable 50K	1	
R2572,2573		ERD10TJ273	27K	2	
R2574		ERO10TKG5602	56K	1	Ⓝ
R2576		ERO10TKG2702	27K	1	Ⓝ
R2577,2578		ERD10TJ104	100K	2	
R2579		ERD10TJ563	56K	1	
R2580		ERD10TJ105	1M	1	
R2581		ERD10TJ561	560	1	
R2582,2583		ERD10TJ104	100K	2	
R2587		ERD10TJ223	22K	1	
R2588		ERD10TJ103	10K	1	
R2589		ERD10TJ223	22K	1	
R2590		ERD10TJ103	10K	1	
R2591		ERD10TJ334	330K	1	
R2592		ERD10TJ473	47K	1	
R2594		ERD10TJ333	33K	1	
R2595		ERD10TJ104	100K	1	
R2596		ERD10TJ333	33K	1	
R2597		ERD10TJ183	18K	1	
R2598		ERD10TJ473	47K	1	
R2599		ERD10TJ101	100	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2604		ERD10TJ823	82K	1	
R2605		ERD10TJ103	10K	1	
R2606		ERD10TJ123	12K	1	
R2607		ERD10TJ563	56K	1	
R2608		ERD10TJ123	12K	1	
R2609		ERD10TJ183	18K	1	
R2610		ERD10TJ123	12K	1	
R2611,2612		ERD10TJ103	10K	2	
R2613,2614		ERD10TJ223	22K	2	
R2615		ERD10TJ562	5.6K	1	
R2616		ERD10TJ103	10K	1	
R2617		ERD10TJ104	100K	1	
R2618,2619		ERD10TJ563	56K	2	
R2620		ERD10TJ562	5.6K	1	
R2621		ERD10TJ223	22K	1	
R2622		ERD10TJ273	27K	1	
R2623		ERD10TJ183	18K	1	
R2624		ERD10TJ153	15K	1	
R2625		ERD10TJ333	33K	1	
R2626		ERD10TJ103	10K	1	
R2627		ERD10TJ333	33K	1	
R2628		ERD10TJ102	1K	1	
R2629		ERD10TJ563	56K	1	
R2630		ERD10TJ103	10K	1	
R2631		ERD10TJ333	33K	1	
R2632		ERD10TJ223	22K	1	
R2633		ERD10TJ562	5.6K	1	
R2634		ERD10TJ223	22K	1	
R2635		ERD10TJ104	100K	1	
R2636		ERD10TJ333	33K	1	
R2637		ERD10TJ332	3.3K	1	
R2638		ERD10TJ563	56K	1	
R2639		ERD10TJ103	10K	1	
R2640		ERD10TJ682	6.8K	1	
R2641		ERD10TJ563	56K	1	
R2642		ERD10TJ682	6.8K	1	
R2643		ERD10TJ102	1K	1	
R2644		ERD10TJ223	22K	1	
R2645		ERD10TJ123	12K	1	
R2646		ERD10TJ332	3.3K	1	
R2647		ERD10TJ473	47K	1	
R2648		ERD10TJ562	5.6K	1	
R2653		ERD10TJ103	10K	1	
R2654		ERD10TJ102	1K	1	
R2655		ERD10TJ103	10K	1	
R2658		ERD10TJ121	120	1	
R2659		ERD10TJ393	39K	1	
R2660		ERD10TJ103	10K	1	
R2661		ERD10TJ102	1K	1	
R2662		ERD10TJ124	120K	1	
R2663		ERD10TJ392	3.9K	1	
R2664		ERD10TJ103	10K	1	
R2666		EVNK6AA00B15	Variable 100K	1	
R2667		ERD10TJ102	1K	1	
R2668		ERD10TJ105	1M	1	
R2669		ERD10TJ154	150K	1	
R2670		ERD10TJ473	47K	1	
R2671		ERD10TJ563	56K	1	
R2672		ERD10TJ104	100K	1	
R2673		ERD10TJ222	2.2K	1	
R2674		ERD10TJ104	100K	1	
R2675		ERD10TJ394	390K	1	
R2676		ERD10TJ103	10K	1	
R2677		ERD10TJ153	15K	1	
R2678		ERD10TJ334	330K	1	
R2679		ERD10TJ562	5.6K	1	
R2680		ERD10TJ222	2.2K	1	
R2681		ERD10TJ104	100K	1	
R2682		ERD10TJ563	56K	1	
R2683		ERD10TJ333	33K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2685		ERD10TJ683	68K	1	
R2686		ERD10TJ333	33K	1	
R2687,2688		ERD10TJ103	10K	2	
R2689		ERD10TJ104	100K	1	
R2690		ERD10TJ102	1K	1	
R2691,2692		ERD10TJ391	390	2	
R2693		ERD10TJ272	2.7K	1	
R2694		ERD10TJ224	220K	1	
R2695,2696		ERD10TJ223	22K	2	
R2697		ERD10TJ391	390	1	
R2698		ERD10TJ223	22K	1	
R2699		ERD10TJ391	390	1	
R2700		ERD10TJ224	220K	1	
R2701		ERD10TJ223	22K	1	
R2702		ERD10TJ272	2.7K	1	
R2703,2704		ERD10TJ104	100K	2	
R2705		ERD10TJ272	2.7K	1	
R2706		ERD10TJ562	5.6K	1	
R2710,2711		ERD10TJ104	100K	2	
R2712		ERD10TJ273	27K	1	
R2713		ERO10TKG1203	120K	1	Ⓝ
R2714		ERD10TJ103	10K	1	
R2715		ERD10TJ223	22K	1	
R2716		ERD10TJ473	47K	1	
R2717,2718		ERD10TJ104	100K	2	
R2719		ERD10TJ223	22K	1	
R2720		ERD10TJ473	47K	1	
R2721		ERD10TJ273	27K	1	
R2722		ERO10TKG1203	120K	1	Ⓝ
R2723		ERD10TJ103	10K	1	
R2724		ERD10TJ223	22K	1	
R2725		ERD10TJ473	47K	1	
R2726,2727		ERD10TJ104	100K	2	
R2728		ERD10TJ223	22K	1	
R2729		ERD10TJ473	47K	1	
R2730,2731		ERD10TJ333	33K	2	
R2732		ERO10TKG1502	15K	1	Ⓝ
R2733,2734		ERO10TKG5601	5.6K	2	Ⓝ
R2735,2736		ERO10TKG1502	15K	2	Ⓝ
R2737,2738		ERO10TKG5601	5.6K	2	Ⓝ
R2739		ERO10TKG1502	15K	1	Ⓝ
R2740,2741		ERD10TJ103	10K	2	
R2742		ERD10TJ102	1K	1	
R2743-2745		ERD10TJ103	10K	3	
R2746,2747		ERD10TJ682	6.8K	2	
R2748,2749		ERD10TJ243	24K	2	
R2751		ERD10TJ123	12K	1	
R2752,2753		ERD10TJ333	33K	2	
R2754,2755		ERD10TJ103	10K	2	
R2756		ERD10TJ105	1M	1	
R2757		ERD10TJ104	100K	1	
R2758		ERD10TJ105	1M	1	
R2759		ERD10TJ104	100K	1	
R2760		ERD10TJ390	39	1	
R2761		ERD10TJ103	10K	1	
R2762		ERD10TJ102	1K	1	
R2763		ERD10TJ472	4.7K	1	
R2764,2765		ERD10TJ223	22K	2	
R2766		EVNK6AA00B25	Variable 200K	1	
R2767,2768		ERD10TJ473	47K	2	
R2769		ERD10TJ563	56K	1	
R2770,2771		ERD10TJ104	100K	2	
R2773		ERD10TJ104	100K	1	
R2774		ERD10TJ823	82K	1	
R2775		ERD10TJ332	3.3K	1	
R2776		ERD10TJ105	1M	1	
R2777,2778		ERD10TJ124	120K	2	
R2779,2780		ERD10TJ105	1M	2	
R2782		ERD10TJ183	18K	1	
R2783		EVN38CA00B53	Variable 5K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C2501		ECEA1HS010	Electrolytic 50V 1	1	
C2502		ECQM1H393KS	Mylar 50V 0.039	1	
C2503		ECQM1H392KZ	Mylar 50V 0.0039	1	
C2504,2505		ECQM1H822JZ	Mylar 50V 0.0082	2	
C2506		ECQM1H153JZ	Mylar 50V 0.015	1	
C2507		ECQM1H393KS	Mylar 50V 0.039	1	
C2508		ECQM1H392KZ	Mylar 50V 0.0039	1	
C2509,2510		ECQM1H822JZ	Mylar 50V 0.0082	2	
C2511		ECQM1H153JZ	Mylar 50V 0.015	1	
C2512		ECQV05124JZ	Mylar 50V 0.12	1	
C2513		ECQP1104GZ		1	
C2514		ECQM1H273KZ	Mylar 50V 0.027	1	
C2515		ECQV05124JZ	Mylar 50V 0.12	1	
C2516		ECQP1104GZ		1	
C2517		ECQM1H223KZ	Mylar 50V 0.022	1	
C2518,2519		ECQM1H102KZ	Mylar 50V 0.001	2	
C2520		ECEA1CS100	Electrolytic 16V 10	1	
C2521		ECEA1AN470	Electrolytic 10V 47	1	
C2522,2523		ECQM1H103KZ	Mylar 50V 0.01	2	
C2524,2525		ECQM1H273KZ	Mylar 50V 0.027	2	
C2526		ECQM1H223KZ	Mylar 50V 0.022	1	
C2527		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C2528		ECQM1H473KV	Mylar 50V 0.047	1	
C2529		ECQM1H472KZ	Mylar 50V 0.0047	1	
C2530,2531		ECEA1CS220	Electrolytic 16V 22	2	
C2532		ECEA1CS470	Electrolytic 16V 47	1	
C2533		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2535		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2536		ECEA1HSR47	Electrolytic 50V 0.47	1	
C2537,2538		ECEA1CS100	Electrolytic 16V 10	2	
C2539		ECQM1H103KZ	Mylar 50V 0.01	1	
C2541		ECEA1CS100	Electrolytic 16V 10	1	
C2542		ECEA0JS471	Electrolytic 6.3V 470	1	
C2544		ECEA1AS470	Electrolytic 10V 47	1	
C2545		ECQM1H103KZ	Mylar 50V 0.01	1	
C2546		ECEA1CS101	Electrolytic 16V 100	1	
C2547		ECEA1CS330	Electrolytic 16V 33	1	
C2548		ECEA0JS470	Electrolytic 6.3V 47	1	
C2549		ECEA1CN470	Electrolytic 16V 47	1	
C2550		ECCF1H101KC	Ceramic 50V 100P	1	
C2551		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2552,2553		ECEA50ZR22	Electrolytic 50V 0.22	2	
C2554		ECEA1CS470	Electrolytic 16V 47	1	
C2555		ECEA1CS100	Electrolytic 16V 10	1	
C2556		ECEA1AS470	Electrolytic 10V 47	1	
C2557		ECEA1CS470	Electrolytic 16V 47	1	
C2558		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2559,2560		ECEA1CS100	Electrolytic 16V 10	2	
C2561,2562		ECKF1H103ZF	Ceramic 50V 0.01	2	
C2563		ECEA1CS100	Electrolytic 16V 10	1	
C2564		ECEA1HSR47	Electrolytic 50V 0.47	1	
C2568		ECEA1CS220	Electrolytic 16V 22	1	
C2569		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2570		ECEA1CS100	Electrolytic 16V 10	1	
C2571		ECKF1H103ZF	Ceramic 50V 0.01	1	
			Coils		
L2501-2503		VLQEL06R221K		3	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Connectors		
P2501		VJP1142	3P	1	
P2502		VJP1146	10P	1	
P2503		VJP1143	5P	1	
P2504		VJP1147	12P	1	
P2505		VJP1145	8P	1	
P2506,2507		VJP1142	3P	2	
P2508		VJP1143	5P	1	
P2509		VJP1144	6P	1	
P2510		VJP1142	3P	1	
TP2501-2517		VJH0096Z		17	
		VEP07136A	Piezo Drive P.C. Board		
			Transistors		
Q2801,2802		2SC1473A		2	(P,Q,R) 🅝
Q2803,2804		2SC1328		2	(S,T) 🅝
Q2805-2812		2SA1018V		8	(Q,R) 🅝
Q2813,2814		2SC1473A		2	(P,Q,R) 🅝
Q2815,2816		2SC1328		2	(S,T) 🅝
Q2817-2828		2SA1018V		12	(Q,R) 🅝
			Diodes		
D2801-2814		MA165		14	
			Resistors		
R2801,2802		ERD25TJ103	1/4W 10K	2	
R2803		ERD25TJ104	1/4W 100K	1	
R2804		ERD25TG824	1/4W 820K	1	
R2805		ERD25TG153	1/4W 15K	1	
R2806-2809		ERD25TJ474	1/4W 470K	4	
R2810,2811		ERD25TJ153	1/4W 15K	2	
R2812		ERD25TG684	1/4W 680K	1	
R2813-2818		ERD25TJ474	1/4W 470K	6	
R2819,2820		ERD25TJ103	1/4W 10K	2	
R2821		ERD25TJ104	1/4W 100K	1	
R2822		ERD25TG824	1/4W 820K	1	
R2823		ERD25TG153	1/4W 15K	1	
R2824-2827		ERD25TJ474	1/4W 470K	4	
R2828		ERD25TG684	1/4W 680K	1	
R2829-2832		ERD25TJ474	1/4W 470K	4	
R2833,2834		ERD25TJ153	1/4W 15K	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R2835-2838		ERD25TJ474	1/4W 470K	4	
R2839		ERD10TJ330	33	1	
R2840		ERD10TJ331	330	1	
R2841		ERD10TJ330	33	1	
R2842		ERD10TJ331	330	1	
			Capacitors		
C2801,2802		ECKF2H331KB	Ceramic 500V 330P	2	
			Connectors		
P2801,2802		VJP1226	5P	2	
P2803		VJP1144	6P	1	
P2804		VJP1143	5P	1	
P2805		VJP1141	2P	1	
			Miscellaneous		
TP2801-2805		VJH0096Z	Test Terminals	5	
		VEP06161A	Operation (II) P.C. Board		
			Integrated Circuit		
IC6401		BA656		1	🅝
			Transistors		
Q6401-6404		2SD636		4	(P,Q,R)
			Diodes		
D6401-6407		MA165		7	
D6408		LN31GCPUHL		1	
D6409		LN41YCPHL		1	
D6410,6411		LN31GCPUHL		2	
D6412-6423		LN81RCPHL		12	
			Resistors		
R6401		ERD10TJ821	820	1	
R6403		ERD10TJ821	820	1	
R6404		ERD10TJ122	1.2K	1	
R6405		ERD10TJ821	820	1	
R6406-6409		ERD10TJ471	470	4	
R6410		ERD10TJ182	1.8K	1	
R6411-6414		ERD10TJ331	330	4	
R6415		ERD10TJ333	33K	1	
R6416		ERD10TJ223	22K	1	
R6417		ERD10TJ122	1.2K	1	
R6418,6419		ERD10TJ223	22K	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Connectors		
P6401,6402		VJP1145	8P	2	
P6403		VJP1144	6P	1	
P6405		VJP1142	3P	1	
			Switches		
SW6401-6409		EVQPXR04K		9	
		VSL0006	Display Tube	1	Ⓝ
		VEP00886A	Envelope Amp. P.C. Board		
			Transistors		
Q2901		2SC2206		1	(C)
Q2902		2SD636		1	(P,Q,R)
Q2903		2SC2206		1	(C)
Q2904		2SD636		1	(P,Q,R)
			Diodes		
D2901-2903		MA165		3	
			Resistors		
R2901		EVNK6AA00B23	Variable 2K	1	
R2902		ERD10TJ820	82	1	
R2903		ERD10TJ560	56	1	
R2904		ERD10TJ123	12K	1	
R2905		ERD10TJ104	100K	1	
R2906		ERD10TJ102	1K	1	
R2907		ERD10TJ471	470	1	
R2908		ERD10TJ101	100	1	
R2909		ERD10TJ123	12K	1	
R2910		ERD10TJ102	1K	1	
R2911		ERD10TJ561	560	1	
R2912		ERD10TJ272	2.7K	1	
R2913		ERD10TJ154	150K	1	
R2914		ERD10TJ102	1K	1	
R2915		ERD10TJ101	100	1	
R2916		ERO10TKG5601	5.6K	1	Ⓝ
R2917		ERO10TKG3301	3.3K	1	Ⓝ
R2918		ERD10TJ103	10K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C2901		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C2902		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2903		ECKF1H151KB	Ceramic 50V 150P	1	
C2904		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2905		VCKW1H431JS	Ceramic 50V 430P	1	
C2906		ECCF1H820KC	Ceramic 50V 82P	1	
C2907		ECKF1H103ZF	Ceramic 50V 0.01	1	
C2908		ECKF1H472KB	Ceramic 50V 0.0047	1	
C2909		ECEA1AS330	Electrolytic 10V 33	1	
C2910		ECQV05104JB	Mylar 50V 0.1	1	
			Coil		
L2901		VLQEL06F151K		1	
			Miscellaneous		
TP2901		VJH23		1	
GND					
		VJP1143	Straight Pin Header 5P	1	
		VEP03136A	Luminance & Chrominance P.C. Board		
			Integrated Circuits		
IC3001		AN6310		1	
IC3002,3003		AN6320N		2	
IC3004		AN6332		1	
IC3005		SN76670N		1	
IC3006		AN6321		1	
IC8001		AN6360		1	
IC8002		AN6361N		1	
IC8003		AN6362		1	
IC8004		AN6342N		1	
			Transistors		
Q3001,3002		2SB641		2	(P,Q,R,S)
Q3003		2SD636		1	(P,Q,R,S)
Q3004		2SC2377		1	(B,C,D)
Q3005		2SD636		1	(P,Q,R,S)
Q3006		2SC2206		1	(B,C)
Q3007		2SB641		1	(P,Q,R,S)
Q3008		2SD638		1	(Q,R)
Q3009,3010		2SD636		2	(P,Q,R,S)
Q3012,3013		2SD636		2	(P,Q,R,S)
Q3014,3015		2SD638		2	(Q,R)
Q3016		2SD636		1	(P,Q,R,S)
Q3017		2SB643		1	(P,Q,R,S)
Q3018		2SD636		1	(P,Q,R,S)
Q3019		2SB643		1	(P,Q,R,S)
Q3020		2SD636		1	(P,Q,R,S)
Q3021-3023		2SC2206		3	(B,C)

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
Q3024		2SC2377		1	(B,C,D)
Q3025,3026		2SD636		2	(P,Q,R,S)
Q3027,3028		2SC2206		2	(B,C)
Q3029		2SD636		1	(P,Q,R,S)
Q3030		2SB641		1	(P,Q,R,S)
Q3031,3032		2SD636		2	(P,Q,R,S)
Q3033		2SC2206		1	(B,C)
Q3034		2SD636		1	(P,Q,R,S)
Q3035		2SC2206		1	(B,C)
Q3036,3037		2SD636		2	(P,Q,R,S)
Q3038		2SB641		1	(P,Q,R,S)
Q3039-3041		2SD636		3	(P,Q,R,S)
Q3042		2SB641		1	(P,Q,R,S)
Q3043		2SD636		1	(P,Q,R,S)
Q8001		2SC2206		1	(B,C)
Q8003		2SD636		1	(P,Q,R,S)
			Diodes		
D3001		MA165		1	
D3002,3003		1SS16		2	
D3004		0A90		1	
D3005-3012		MA165		8	
D3013,3014		1SS16		2	
D3015-3017		MA165		3	
D8001-8004		MA165		4	
			Resistors		
R3001		ERD10TJ102	1K	1	
R3002		ERD10TJ222	2.2K	1	
R3003		ERD10TJ102	1K	1	
R3004		EVNK6AA00B53	Variable 5K	1	
R3005		ERD10TJ103	10K	1	
R3006		ERD25TJ684	1/4W 680K	1	
R3007		ERD10TJ332	3.3K	1	
R3008		ERD10TJ271	270	1	
R3009		ERD10TJ222	2.2K	1	
R3010		ERD10TJ562	5.6K	1	
R3011		ERD10TJ332	3.3K	1	
R3012,3013		EVNK6AA00B53	Variable 5K	2	
R3014		ERD10TJ562	5.6K	1	
R3015		ERD10TJ102	1K	1	
R3016		ERD10TJ122	1.2K	1	
R3017		EVNK6AA00B53	Variable 5K	1	
R3018		ERD10TJ272	2.7K	1	
R3019		ERD10TJ182	1.8K	1	
R3020		ERD10TJ102	1K	1	
R3021		ERD10TJ821	820	1	
R3022		ERD10TJ182	1.8K	1	
R3023		ERD10TJ102	1K	1	
R3024		ERD10TJ332	3.3K	1	
R3025		ERD10TJ333	33K	1	
R3026		ERD10TJ153	15K	1	
R3027		ERD10TJ182	1.8K	1	
R3028		ERD25TJ824	1/4W 820K	1	
R3029		ERD10TJ393	39K	1	
R3030		ERD10TJ823	82K	1	
R3031		ERD10TJ223	22K	1	
R3032		EVNK6AA00B52	Variable 500	1	
R3033		ERD10TJ820	82	1	
R3034		ERD10TJ821	820	1	
R3035		ERD10TJ682	6.8K	1	
R3036		ERD10TJ122	1.2K	1	
R3037		ERD10TJ152	1.5K	1	
R3038		ERD10TJ911	910	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3039		ERD10TJ221	220	1	
R3040		ERD10TJ560	56	1	
R3042		ERD10TJ124	120K	1	
R3043		ERD10TJ393	39K	1	
R3044		ERD10TJ122	1.2K	1	
R3045,3046		ERD10TJ682	6.8K	2	
R3047,3048		ERD10TJ560	56	2	
R3049-3051		ERD10TJ273	27K	3	
R3052		ERD10TJ153	15K	1	
R3053		ERD10TJ473	47K	1	
R3054		ERD10TJ1R0	1	1	
R3055		ERD10TJ153	15K		
R3056		ERD10TJ473	47K	1	
R3057		ERD10TJ153	15K	1	
R3058		ERD10TJ473	47K	1	
R3059		ERD10TJ153	15K	1	
R3060		ERD10TJ473	47K	1	
R3061		ERD10TJ153	15K	1	
R3062		ERD10TJ473	47K	1	
R3063		ERD10TJ100	10	1	
R3064		ERD10TJ332	3.3K	1	
R3065		ERD10TJ223	22K	1	
R3066		ERD10TJ332	3.3K	1	
R3067		ERD10TJ100	10	1	
R3068		ERD10TJ473	47K	1	
R3069		ERD10TJ273	27K	1	
R3070		EVNK6AA00B13	Variable 1K	1	
R3071		ERD10TJ561	560	1	
R3072		ERD10TJ822	8.2K	1	
R3073		EVNK6AA00B23	Variable 2K	1	
R3074		ERD10TJ471	470	1	
R3075		ERD10TJ472	4.7K	1	
R3076		ERD10TJ822	8.2K	1	
R3077		ERD10TJ561	560	1	
R3078		EVNK6AA00B13	Variable 1K	1	
R3079		ERD10TJ473	47K	1	
R3080		ERD10TJ472	4.7K	1	
R3081		ERD10TJ563	56K	1	
R3082		ERD10TJ103	10K	1	
R3083,3084		ERD10TJ333	33K	2	
R3085		ERD10TJ103	10K	1	
R3086		ERD10TJ102	1K	1	
R3087		ERD10TJ273	27K	1	
R3088		ERD10TJ473	47K	1	
R3089		EVNK6AA00B13	Variable 1K	1	
R3090		ERD10TJ561	560	1	
R3091		ERD10TJ822	8.2K	1	
R3092		EVNK6AA00B23	Variable 2K	1	
R3093		ERD10TJ471	470	1	
R3094		ERD10TJ472	4.7K	1	
R3095		ERD10TJ822	8.2K	1	
R3096		ERD10TJ561	560	1	
R3097		EVNK6AA00B13	Variable 1K	1	
R3098		ERD10TJ473	47K	1	
R3099		EVNK6AA00B13	Variable 1K	1	
R3100		ERD10TJ223	22K	1	
R3101		ERD10TJ103	10K	1	
R3102		ERD10TJ222	2.2K	1	
R3103,3104		ERD10TJ103	10K	2	
R3105		EVNK6AA00B13	Variable 1K	1	
R3108		ERD10TJ682	6.8K	1	
R3109		ERD10TJ151	150	1	
R3110		ERD10TJ562	5.6K	1	
R3111		ERD10TJ272	2.7K	1	
R3112,3113		ERD10TJ561	560	2	
R3114,3115		ERD10TJ102	1K	2	
R3116		ERD10TJ391	390	1	
R3117		ERD10TJ101	100	1	
R3118		ERD10TJ182	1.8K	1	
R3119		ERD10TJ222	2.2K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3120		ERD10TJ820	82	1	
R3121		ERD10TJ153	15K	1	
R3122-3124		ERD10TJ102	1K	3	
R3125		EVNK6AA00B54	Variable 50K	1	
R3126		ERD10TJ153	15K	1	
R3127		ERD10TJ102	1K	1	
R3128		ERD10TJ331	330	1	
R3129		ERD10TJ472	4.7K	1	
R3130		ERD10TJ222	2.2K	1	
R3131,3132		ERD10TJ102	1K	2	
R3133		ERD10TJ561	560	1	
R3134		ERD10TJ222	2.2K	1	
R3135		ERD10TJ102	1K	1	
R3136		ERD10TJ270	27	1	
R3137		ERD10TJ152	1.5K	1	
R3138		ERD10TJ823	82K	1	
R3139		EVNK6AA00B24	Variable 20K	1	
R3140		ERD10TJ152	1.5K	1	
R3141		ERD10TJ391	390	1	
R3142-3144		ERD10TJ561	560	3	
R3145		ERD10TJ102	1K	1	
R3146		ERD10TJ331	330	1	
R3147		ERD10TJ103	10K	1	
R3148		ERD10TJ562	5.6K	1	
R3149		ERD10TJ182	1.8K	1	
R3150		ERD10TJ821	820	1	
R3151		ERD10TJ682	6.8K	1	
R3152		ERD10TJ391	390	1	
R3153		ERD10TJ122	1.2K	1	
R3154		ERD10TJ221	220	1	
R3155		ERD10TJ273	27K	1	
R3156		ERD10TJ153	15K	1	
R3157		ERD10TJ222	2.2K	1	
R3158		ERD10TJ563	56K	1	
R3159		ERD10TJ273	27K	1	
R3160		ERD10TJ153	15K	1	
R3161		ERD10TJ102	1K	1	
R3162		EVNK6AA00B13	Variable 1K	1	
R3163		ERD10TJ472	4.7K	1	
R3164		ERD10TJ103	10K	1	
R3165		ERD10TJ101	100	1	
R3166		ERD10TJ391	390	1	
R3167		ERD10TJ333	33K	1	
R3168		ERD10TJ103	10K	1	
R3169,3170		ERD10TJ561	560	2	
R3171		ERD10TJ472	4.7K	1	
R3172,3173		ERD10TJ332	3.3K	2	
R3174,3175		ERD10TJ102	1K	2	
R3176		ERD10TJ820	82	1	
R3177		EVNK6AA00B13	Variable 1K	1	
R3178		ERD10TJ332	3.3K	1	
R3179		ERD25TJ105	1/4W 1M	1	
R3180		ERD10TJ122	1.2K	1	
R3181		ERD10TJ121	120	1	
R3182		ERD10TJ391	390	1	
R3183		ERD25TJ105	1/4W 1M	1	
R3184		ERD10TJ562	5.6K	1	
R3185		ERD10TJ103	10K	1	
R3186		ERD10TJ333	33K	1	
R3187		ERD10TJ562	5.6K	1	
R3188		ERD10TJ122	1.2K	1	
R3189		ERD10TJ391	390	1	
R3190		ERD25TJ474	1/4W 470K	1	
R3191		ERD10TJ102	1K	1	
R3192		ERD10TJ152	1.5K	1	
R3193		ERD10TJ101	100	1	
R3194		ERD10TJ471	470	1	
R3195		ERD10TJ562	5.6K	1	
R3196		ERD10TJ103	10K	1	
R3197		ERD10TJ221	220	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R3198,3199		ERD10TJ102	1K	2	
R3200		ERD10TJ561	560	1	
R3201		ERD10TJ152	1.5K	1	
R3202		ERD10TJ103	10K	1	
R3203		ERD10TJ153	15K	1	
R3204		ERD10TJ222	2.2K	1	
R3205,3206		ERD10TJ562	5.6K	2	
R3208		ERD10TJ333	33K	1	
R3209		ERD10TJ153	15K	1	
R3210		ERD10TJ392	3.9K	1	
R3211		ERD10TJ333	33K	1	
R3212,3213		ERD10TJ103	10K	2	
R3214		ERD10TJ101	100	1	
R8001		ERD10TJ563	56K	1	
R8002		ERD10TJ103	10K	1	
R8003		ERD10TJ102	1K	1	
R8004		ERD10TJ680	68	1	
R8005		ERD10TJ122	1.2K	1	
R8006		ERD10TJ821	820	1	
R8007		ERD10TJ152	1.5K	1	
R8008		ERD25TJ684	1/4W 680K	1	
R8009		ERD25TJ105	1/4W 1M	1	
R8011		ERD10TJ122	1.2K	1	
R8012,8013		ERD10TJ102	1K	2	
R8014		ERD10TJ122	1.2K	1	
R8015		ERD10TJ102	1K	1	
R8016		ERD10TJ681	680	1	
R8017		ERD10TJ222	2.2K	1	
R8018		ERD10TJ152	1.5K	1	
R8019		EVNK6AA00B23	Variable 2K	1	
R8020		EVNK6AA00B53	Variable 5K	1	
R8021-8023		ERD10TJ391	390	3	
R8024		ERD10TJ222	2.2K	1	
R8025		ERD25TJ334	1/4W 330K	1	
R8026		ERD10TJ472	4.7K	1	
R8027		ERD10TJ182	1.8K	1	
R8028		ERD10TJ392	3.9K	1	
R8029		ERD10TJ223	22K	1	
R8030		ERD10TJ122	1.2K	1	
R8031		ERD10TJ123	12K	1	
R8032		EVNK6AA00B52	Variable 500	1	
R8033		ERD10TJ222	2.2K	1	
R8034		ERD25TJ681	1/4W 680	1	
R8035		ERD10TJ102	1K	1	
R8036		ERD10TJ562	5.6K	1	
R8038		ERD10TJ333	33K	1	
R8039		ERD10TJ332	3.3K	1	
R8040,8041		ERD10TJ103	10K	2	
R8042		ERD10TJ224	220K	1	
R8045		ERD10TJ102	1K	1	
R8046		ERD10TJ472	4.7K	1	
R8047		ERD10TJ682	6.8K	1	
R8048		ERD12FJ121	120	1	
R8049		ERD10TJ564	560K	1	
			Capacitors		
C3001		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C3002		ECEA0JS470	Electrolytic 6.3V 47	1	
C3003		ECEA0JN470	Electrolytic 6.3V 47	1	
C3004		ECEA0JS101	Electrolytic 6.3V 100	1	
C3005		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3006		ECEA0JS470	Electrolytic 6.3V 47	1	
C3007		ECQM1H333KS	Mylar 50V 0.033	1	
C3008		VCKW1H621JS	Ceramic 50V 620P	1	
C3009		ECCF1H470KC	Ceramic 50V 47P	1	
C3010,3011		ECKF1H103ZF	Ceramic 50V 0.01	2	
C3012		ECQM1H473KV	Mylar 50V 0.047	1	

Ref. No.		Part No.	Part Name & Description			Pcs / Set	Remarks
C3013		ECCF1H180KC	Ceramic	50V	18P	1	
C3014		ECEA1AS470	Electrolytic	10V	47	1	
C3015		ECEA0JS470	Electrolytic	16V	47	1	
C3016		ECCF1H151KC	Ceramic	50V	150P	1	
C3017		ECEA1CS221	Electrolytic	16V	220	1	
C3018		ECEA1AS470	Electrolytic	10V	47	1	
C3019		ECEA0JN470	Electrolytic	6.3V	47	1	
C3020		ECEA1CS470	Electrolytic	16V	47	1	
C3021,3022		ECCF1H151KC	Ceramic	50V	150P	2	
C3023		ECCF1H820KC	Ceramic	50V	82P	1	
C3024		ECV1ZW50X44	Trimmer			1	
C3025		ECEA0JN470	Electrolytic	6.3V	47	1	
C3026		ECEA1CS470	Electrolytic	16V	47	1	
C3027		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3028		ECKF1H331KB	Ceramic	50V	330P	1	
C3029		ECCF1H680KC	Ceramic	50V	68P	1	
C3030		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3031		ECEA1CS100	Electrolytic	16V	10	1	
C3033		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3034		ECEA0JS101	Electrolytic	6.3V	100	1	
C3035,3036		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3037		ECEA1CS470	Electrolytic	16V	47	1	
C3038,3039		ECQV05104JZ	Mylar	50V	0.1	2	
C3040		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3041,3042		ECEA1CS100	Electrolytic	16V	10	2	
C3043		ECV1ZW50X44	Trimmer			1	
C3044		ECEA1HS010	Electrolytic	50V	1	1	
C3045,3046		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3047		ECEA1HS010	Electrolytic	50V	1	1	
C3048		ECEA1CS100	Electrolytic	16V	10	1	
C3049		ECV1ZW50X44	Trimmer			1	
C3050		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3051		ECCF1H680KC	Ceramic	50V	68P	1	
C3052		ECCF1H470KC	Ceramic	50V	47P	1	
C3053,3054		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3055		ECCF1H680KC	Ceramic	50V	68P	1	
C3056		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3057		ECEA1CS470	Electrolytic	16V	47	1	
C3058		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3059		ECV1ZW50X44	Trimmer			1	
C3060		ECEA1HS010	Electrolytic	50V	1	1	
C3061,3062		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3063		ECEA1HS010	Electrolytic	50V	1	1	
C3064		ECEA1CS100	Electrolytic	16V	10	1	
C3065		ECV1ZW50X44	Trimmer			1	
C3066		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3067		ECCF1H680KC	Ceramic	50V	68P	1	
C3068		ECCF1H470KC	Ceramic	50V	47P	1	
C3069,3070		ECKF1HL03ZF	Ceramic	50V	0.01	2	
C3071		ECCF1H680KC	Ceramic	50V	68P	1	
C3072-3074		ECKF1H103ZF	Ceramic	50V	0.01	3	
C3075		ECEA1CS100	Electrolytic	16V	10	1	
C3076,3077		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3079		ECEA1CS100	Electrolytic	16V	10	1	
C3080		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3081		ECCF1H470KC	Ceramic	50V	47	1	
C3082,3083		VCKW1H431JS	Ceramic	50V	430P	2	
C3084		ECEA1CS100	Electrolytic	16V	10	1	
C3085		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3086		ECCF1H151KC	Ceramic	50V	150P	1	
C3087		ECKF1H182KB	Ceramic	50V	0.0018	1	
C3088		ECCF1H101KC	Ceramic	50V	100P	1	
C3089		ECEA0JS470	Electrolytic	6.3V	47	1	
C3090		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3091,3092		ECCF1H270KC	Ceramic	50V	27P	2	
C3093		ECCF1H220KC	Ceramic	50V	22P	1	
C3094,3095		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3096		ECQM1H473KV	Mylar	50V	0.047	1	
C3097		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3098		ECEA1CS470	Electrolytic	16V	47	1	
C3099-3101		ECKF1H103ZF	Ceramic	50V	0.01	3	
C3102		ECKF1H331KB	Ceramic	50V	330P	1	
C3103,3104		ECKF1H103ZF	Ceramic	50V	0.01	2	
C3105		ECCF1H560KC	Ceramic	50V	56P	1	
C3106		ECCF1H270KC	Ceramic	50V	27P	1	
C3107		ECEA1CS100	Electrolytic	16V	10	1	
C3108		ECCF1H680KC	Ceramic	50V	68P	1	
C3109		ECEA1CS101	Electrolytic	16V	100	1	
C3110		ECEA1CS470	Electrolytic	16V	47	1	
C3111		ECEA0JS470	Electrolytic	6.3V	47	1	
C3112		ECEA1CS100	Electrolytic	16V	10	1	
C3113		ECCF1H820KC	Ceramic	50V	82P	1	
C3114		ECKF1H331KB	Ceramic	50V	330P	1	
C3115		ECCF1H101KC	Ceramic	50V	100P	1	
C3116		VCKW1H122JS	Ceramic	50V	0.0012	1	
C3117		ECEA0JN470	Electrolytic	6.3V	47	1	
C3118		ECCF1H560KC	Ceramic	50V	56P	1	
C3119		ECEA1AS470	Electrolytic	10V	47	1	
C3120		ECCF1H820KC	Ceramic	50V	82P	1	
C3121,3122		ECEA1CS100	Electrolytic	16V	10	2	
C3123		ECEA0JS330	Electrolytic	6.3V	33	1	
C3124		ECCF1H121KC	Ceramic	50V	120P	1	
C3125		ECEA0JS330	Electrolytic	6.3V	33	1	
C3126		ECEA1AS470	Electrolytic	10V	47	1	
C3127		ECCF1H470KC	Ceramic	50V	47	1	
C3128		ECEA1CS100	Electrolytic	16V	10	1	
C3129		ECCF1H180KC	Ceramic	50V	18P	1	
C3130		ECEA1CS221	Electrolytic	16V	220	1	
C3131		ECQM1H272JZ	Mylar	50V	0.0027	1	
C3132-3134		ECKF1H103ZF	Ceramic	50V	0.01	3	
C3135		ECEA0JS330	Electrolytic	6.3V	33	1	
C3136		VCY25473KX	Semiconductor	25V	0.047	1	
C3137		ECEA0JS470	Electrolytic	6.3V	47	1	
C3138		ECEA1CS100	Electrolytic	16V	10	1	
C3139		ECCF1H121KC	Ceramic	50V	120P	1	
C3140		ECCF1H151KC	Ceramic	50V	150P	1	
C3141		ECEA1CS470	Electrolytic	16V	47	1	
C3142		ECEA1HS010	Electrolytic	50V	1	1	
C3143		ECQM1H473KV	Mylar	50V	0.047	1	
C3144		ECEA0JS470	Electrolytic	6.3V	47	1	
C3145		ECKF1H152KB	Ceramic	50V	0.0015	1	
C3146		ECEA0JS470	Electrolytic	6.3V	47	1	
C3147		ECEA1ASS471	Electrolytic	10V	470	1	
C3148		ECEA0JSS471	Electrolytic	6.3V	470	1	
C3149		ECEA1CSS221	Electrolytic	16V	220	1	
C3150		ECEA1CS470	Electrolytic	16V	47	1	
C3151		ECEA0JS330	Electrolytic	6.3V	33	1	
C3152		ECEA1CN100	Electrolytic	16V	10	1	
C3153		ECCF1H680KC	Ceramic	50V	68P	1	
C3154		ECKF1H103ZF	Ceramic	50V	0.01	1	
C3155,3156		ECCF1H101KC	Ceramic	50V	100P	2	
C8001		ECKF1H182KB	Ceramic	50V	0.18	1	
C8002,8003		ECCF1H121KC	Ceramic	50V	120P	2	
C8004		ECKF1H103ZF	Ceramic	50V	0.01	1	
C8005		ECEA1CS100	Electrolytic	16V	10	1	
C8007,8008		ECKF1H103ZF	Ceramic	50V	0.01	2	
C8009		ECEA1CS470	Electrolytic	16V	47	1	
C8010		ECEA1HS010	Electrolytic	50V	1	1	
C8011		ECEA0JS470	Electrolytic	6.3V	47	1	
C8012-8014		ECKF1H103ZF	Ceramic	50V	0.01	3	
C8015		ECCF1H680KC	Ceramic	50V	68P	1	
C8016		ECKF1H221KB	Ceramic	50V	220P	1	
C8017		ECKF1H103ZF	Ceramic	50V	0.01	1	
C8018		ECKF1H681KB	Ceramic	50V	680P	1	
C8019,8020		ECKF1H103ZF	Ceramic	50V	0.01	2	
C8021		ECCF1H470KC	Ceramic	50V	47P	1	
C8022-8024		ECKF1H103ZF	Ceramic	50V	0.01	3	
C8025		ECCF1H270KC	Ceramic	50V	27P	1	
C8026		ECKF1H103ZF	Ceramic	50V	0.01	1	
C8027		ECEA1ES4R7	Electrolytic	25V	4.7	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C8028		ECCF1H101KC	Ceramic 50V 100P	1	
C8029		*ECKF1H103ZF*	*Ceramic 50V 0.01*	1	
C8030		ECKF1H471KB	Ceramic 50V 470P	1	
C8031		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8032		ECKF1H221KB	Ceramic 50V 220P	1	
C8033		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8034		ECCF1H080DC	Ceramic 50V 8P	1	
C8035		ECV1ZW10X44	Trimmer	1	
C8036		ECCF1H030CC	Ceramic 50V 3P	1	
C8037		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8038		ECEA1CS100	Electrolytic 16V 10	1	
C8039		ECQM1H103KZ	Mylar 50V 0.01	1	
C8040		ECCF1H121KC	Ceramic 50V 120P	1	
C8041		ECCF1H181KC	Ceramic 50V 180P	1	
C8042		ECEA1CS100	Electrolytic 16V 10	1	
C8043		ECQM1H183KZ	Mylar 50V 0.018	1	
C8044		ECEA50ZR1	Electrolytic 50V 0.1	1	
C8045		ECQV05104JZ	Mylar 50V 0.1	1	
C8046		ECEA1HS010	Electrolytic 50V 1	1	
C8048		ECKF1H472KB	Ceramic 50V 0.0047	1	
C8049		VCKW1H821JS	Ceramic 50V 820P	1	
C8050		ECEA1AS470	Electrolytic 10V 47	1	
C8051,8052		ECEA1CS470	Electrolytic 16V 47	2	
C8053		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8054		ECKF1H821KB	Ceramic 50V 820P	1	
C8055		ECCF1H151KC	Ceramic 50V 150P	1	
C8056		ECCF1H101KC	Ceramic 50V 100P	1	
C8057		ECV1ZW20X44	Trimmer	1	
C8058		ECCF1H150JC	Ceramic 50V 15P	1	
C8059		ECKF1H103ZF	Ceramic 50V 0.01	1	
C8060		ECEA1CS470	Electrolytic 16V 47	1	
C8061		ECKF1H103ZF	Ceramic 50V 0.01	1	
			Coils		
L3001		VLQEL06R101K	100μH	1	
L3002		VLQEL06R221K	220μH	1	
L3003		VLQEL06R101K	100μH	1	
L3004		*VLQEL06R151K*	150μH	1	
L3005		VLQEL06F820K	82μH	1	
L3008		VLQEL06R3R3K	3.3μH	1	
		or VLOEL06R150J	15mH	1	
L3009		VLQEL06R330K	33μH	1	
L3010		VLQEL06R3R3K	3.3μH	1	
L3011		VLQEL06R221K	220μH	1	
L3012		VLQEL06F221K	220μH	1	
L3013		VLQEL06R221K	220μH	1	
L3014		VLQEL06F3R3K	3.3μH	1	
L3015		VLQEL06R330K	33μH	1	
L3016		VLQEL06F3R3K	3.3μH	1	
L3017		VLQEL06R680K	68μH	1	
L3018		VLQEL06F2R7K	2.7μH	1	
L3019		VLQEL06R151K	150μH	1	
L3020		VLQEL06R101K	100μH	1	
L3021,3022		VLQEL06R471K	470μH	2	
L3023		VLQEL06R221K	220μH	1	
L3024,3025		VLQEL06R100K	10μH	2	
L3026		VLQEL06R101K	100μH	1	
L3027		VLQEL06F820K	82μH	1	
L3028		VLQEL06R221K	220μH	1	
L3029		VLQEL06F100K	10μH	1	
L3030		VLQEL06F471K	470μH	1	
L3031		VLQEL06R221K	220μH	1	
L3032-3035		VLQEL06R101K	100μH	3	
L3037		VLQEL06R471K	470μH	1	
L3038		VLQEL06F560K	56μH	1	
L8001		VLQEL06R221K	220μH	1	
L8002		VLQEL06R331K	330μH	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
L8003		VLQEL06R221K	220μH	1	
L8004,8005		VLQEL06R181K	180μH	2	
L8006		VLQEL06F150J	15mH	1	
L8007		VLQEL06R120J	12mH	1	
L8009		VLQEL06R560K	56μH	1	
L8010		VLQEL06F680K	68μH	1	
L8011		*VLQ7H682J*		1	
L8013,8014		VLQEL06R221K	220μH	2	
			Delay Lines		
DL3001		VLD0022		1	
DL8001		VLD0013		1	
			Filters		
FL3001		VLF0097		1	
FL3002		VLF0099		1	
FL3003		VLF0114		1	
FL8001		VLF0101		1	
FL8002		VLF0105		1	
FL8003		VLF0104		1	
			Crystals		
X8001		VSX0072		1	
X8002		VSX0060		1	
			Connectors		
P3001		VJP1141	2P	1	
P3002,3003		VJP1142	3P	2	
P3004,3005		VJP1145	8P	2	
P3006		VJP1146	10P	1	
P3007		VJP1141	2P	1	
P002		VJP1147	12P	1	
			Test Terminals		
TP3001-3013		VJH0096Z		13	
TP3015-3018		VJH0096Z		4	
TP8001-8009		VJH0096Z		9	
GND		VJH0096Z		4	
			Miscellaneous		
		VSC0616	Shield Case	1	
		VSC0617	Shield Case	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
	VEP0479A1	Audio & V-Dancing Comp.		
		(I) P.C. Board		
		Integrated Circuits		
IC3501	µPD4011BC		1	
IC3502	µPD4049UBC		1	
IC3503	µPC358C		1	Ⓝ
IC3504	µPD4011BC		1	
IC4001,4002	AN6209		2	Ⓝ
IC4003,4004	NE646N		2	
		Transistors		
Q3501	2SD636		1	(R,S)
Q3502	2SK301		1	Ⓝ
Q3503	2SB641		1	(P,Q,R)
Q3504-3506	2SD636		3	(P,Q,R)
Q3514	2SD636		1	(P,Q,R)
Q4002-4006	2SD636		5	(P,Q,R)
Q4007,4008	2SD958		2	(P,Q,R)
Q4009	2SD636		1	(P,Q,R)
Q4010	2SB788		1	(P,Q,R)
Q4011,4012	2SD636		2	(P,Q,R)
Q4014-4016	2SD636		3	(P,Q,R)
Q4018-4020	2SD636		3	(P,Q,R)
Q4021	2SB641		1	(P,Q,R)
Q4022	2SD636		1	(P,Q,R)
Q4023,4024	2SD958		2	(P,Q,R)
Q4025	2SD636		1	(P,Q,R)
Q4026	2SB788		1	(P,Q,R)
Q4027-4029	2SD636		3	(P,Q,R)
Q4031-4034	2SD636		4	(P,Q,R)
Q4035	2SB641		1	(P,Q,R)
Q4036-4039	2SD636		4	(P,Q,R)
Q4040,4041	2SB641		2	(P,Q,R)
Q4042,4043	2SD636		2	(P,Q,R)
Q4044	2SB643		1	(P,Q,R)
Q4045,4046	2SD636		2	(P,Q,R)
Q4047,4048	2SD639		2	(P,Q,R)
Q4049	M21CA		1	
		Diodes		
D3501,3502	MA165		2	
D3506,3507	MA165		2	
D4001-4004	MA165		4	
D4005	OA95		1	
D4006-4011	MA165		6	
D4012	OA95		1	
D4013-4034	MA165		22	
		Resistors		
R3501,3502	ERD10TJ333	33K	2	
R3503,3504	ERD10TJ563	56K	2	
R3505	ERD25TG103	1/4W 10K	1	
R3506	ERD25TG102	1/4W 1K	1	
R3507	EVN38CA00B52	Variable 500	1	
R3508	ERD25TG273	1/4W 27K	1	
R3509	ERD25TG153	1/4W 15K	1	
R3510	ERD10TJ103	10K	1	

Ref. No.	Part No.	Part Name & Description	Pcs / Set	Remarks
R3512,3513	ERD10TJ563	56K	2	
R3514-3516	ERD10TJ562	5.6K	3	
R3517	ERD10TJ272	2.7K	1	
R3518	ERD10TJ273	27K	1	
R3519,3520	ERD10TJ563	56K	2	
R3521	EVN38CA00B15	Variable 100K	1	
R3522-3525	ERD10TJ563	56K	4	
R3526	ERD10TJ823	82K	1	
R3527,3528	ERD10TJ333	33K	2	
R3529	ERD10TJ563	56K	1	
R3532	ERD10TJ563	56K	1	
R3533	ERD10TJ103	10K	1	
R3544	ERD10TJ563	56K	1	
R3547	ERC14GJ475D	4.7M	1	
R3549	ERD10TJ563	56K	1	
R3551,3552	ERD10TJ563	56K	2	
R4001	ERD10TJ104	100K	1	
R4002	ERD25TJ472	1/4W 4.7K	1	
R4003	ERD25TJ331	1/4W 330	1	
R4004	ERD10TJ682	6.8K	1	
R4005,4006	ERD10TJ333	33K	2	
R4007	ERD10TJ103	10K	1	
R4008	ERD10TJ223	22K	1	
R4011	ERD10TJ471	470K	1	
R4012	ERD10TJ680	68	1	
R4013	ERD10TJ681	680	1	
R4014	ERD10TJ272	2.7K	1	
R4015,4016	ERD10TJ183	18K	2	
R4017	EVNK6AA00B53	Variable 5K	1	
R4018	ERD10TJ103	10K	1	
R4019	EVNK6AA00B53	Variable 5K	1	
R4020	ERD10TJ103	10K	1	
R4021	ERD10TJ224	220K	1	
R4022	ERD10TJ103	10K	1	
R4023,4024	ERD10TJ102	1K	2	
R4025	ERD10TJ473	47K	1	
R4026	ERD10TJ274	270K	1	
R4027	ERD10TJ124	120K	1	
R4028	ERD10TJ474	470K	1	
R4029	ERD10TJ332	3.3K	1	
R4030	ERD10TJ181	180	1	
R4031	ERD10TJ102	1K	1	
R4032	ERD10TJ151	150	1	
R4033	ERD10TJ103	10K	1	
R4034	ERD10TJ392	3.9K	1	
R4035,4036	ERD10TJ182	1.8K	2	
R4037	ERD10TJ823	82K	1	
R4038	ERD10TJ392	3.9K	1	
R4039	ERD10TJ821	820	1	
R4040	ERD10TJ223	22K	1	
R4041	ERD10TJ333	33K	1	
R4042	ERD10TJ223	22K	1	
R4043	ERD10TJ103	10K	1	
R4044	ERD10TJ223	22K	1	
R4045	ERD10TJ332	3.3K	1	
R4046	ERD10TJ123	12K	1	
R4047	ERD10TJ103	10K	1	
R4048	ERD10TJ223	22K	1	
R4049	ERD10TJ472	4.7K	1	
R4050	ERD10TJ683	68K	1	
R4051	ERD25TJ181	1/4W 180	1	
R4054	ERD25TJ272	1/4W 2.7K	1	
R4055	ERD25TJ104	1/4W 100K	1	
R4056	ERD10TJ223	22K	1	
R4057	ERD25TJ101	1/4W 100	1	
R4058	EVNK6AA00B13	Variable 1K	1	
R4059	ERD10TJ152	1.5K	1	
R4060	ERD10TJ392	3.9K	1	
R4061	ERD10TJ822	8.2K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R4062		ERD10TJ223	22K	1	
R4063		ERD10TJ222	2.2K	1	
R4064		EVNK6AA00B24	Variable 20K	1	
R4065		ERD10TJ272	2.7K	1	
R4066,4067		ERD10TJ223	22K	2	
R4068		ERD10TJ222	2.2K	1	
R4069		ERD10TJ105	1M	1	
R4070		ERD10TJ333	33K	1	
R4071		ERD10TJ104	100K	1	
R4072		ERD25TJ472	4.7K	1	
R4073		ERD25TJ331	330	1	
R4074		ERD10TJ682	6.8K	1	
R4075,4076		ERD10TJ333	33K	2	
R4077		ERD10TJ103	10K	1	
R4078		ERD10TJ223	22K	1	
R4081		ERD10TJ471	470	1	
R4082		ERD10TJ680	68	1	
R4083		ERD10TJ681	680	1	
R4084		ERD10TJ272	2.7K	1	
R4085,4086		ERD10TJ183	18K	2	
R4087		EVNK6AA00B53	Variable 5K	1	
R4088		ERD10TJ103	10K	1	
R4089		EVNK6AA00B53	Variable 5K	1	
R4090		ERD10TJ103	10K	1	
R4091		ERD10TJ224	220K	1	
R4092		ERD10TJ103	10K	1	
R4093,4094		ERD10TJ102	1K	2	
R4095		ERD10TJ473	47K	1	
R4096		ERD10TJ274	270K	1	
R4097		ERD10TJ124	120K	1	
R4098		ERD10TJ474	470K	1	
R4099		ERD10TJ332	3.3K	1	
R4100		ERD10TJ181	180	1	
R4101		ERD10TJ102	1K	1	
R4102		ERD10TJ103	10K	1	
R4103		ERD10TJ151	150	1	
R4104		ERD10TJ392	3.9K	1	
R4105		ERD10TJ274	270K	1	
R4106,4107		ERD10TJ223	22K	2	
R4108		ERD10TJ104	100K	1	
R4109,4110		ERD10TJ223	22K	2	
R4111		ERD10TJ392	3.9K	1	
R4112		ERD10TJ821	820	1	
R4113		ERD10TJ223	22K	1	
R4114		ERD10TJ333	33K	1	
R4115,4116		ERD10TJ223	22K	2	
R4117		ERD10TJ332	3.3K	1	
R4118		ERD10TJ123	12K	1	
R4119		ERD10TJ103	10K	1	
R4120		ERD10TJ223	22K	1	
R4121		ERD10TJ472	4.7K	1	
R4122		ERD10TJ223	22K	1	
R4123		ERD10TJ683	68K	1	
R4124		ERD25TJ181	1/4W 180	1	
R4127		ERD25TJ272	1/4W 2.7K	1	
R4128		ERD10TJ104	100K	1	
R4129		ERD10TJ223	22K	1	
R4130		ERD25TJ101	1/4W 100	1	
R4131		EVNK6AA00B13	Variable 1K	1	
R4132		ERD10TJ392	3.9K	1	
R4133		ERD10TJ822	8.2K	1	
R4134		ERD10TJ223	22K	1	
R4135		ERD10TJ222	2.2K	1	
R4136		EVNK6AA00B24	Variable 20K	1	
R4137		ERD10TJ272	2.7K	1	
R4138,4139		ERD10TJ223	22K	2	
R4140		ERD10TJ222	2.2K	1	
R4141		ERD10TJ105	1M	1	
R4142		ERD10TJ333	33K	1	
R4143		ERD10TJ560	56	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R4144		ERD10TJ103	10K	1	
R4145		ERD10TJ333	33K	1	
R4146,4147		ERD10TJ223	22K	2	
R4148		ERD10TJ103	10K	1	
R4149		ERD10TJ562	5.6K	1	
R4150		ERD10TJ223	22K	1	
R4152-4154		ERD10TJ223	22K	3	
R4155,4156		ERD10TJ103	10K	2	
R4157		ERD10TJ223	22K	1	
R4158		ERD10TJ392	3.9K	1	
R4159-4168		ERD10TJ223	22K	10	
R4169		ERD10TJ103	10K	1	
R4170		ERD10TJ223	22K	1	
R4171		ERD10TJ103	10K	1	
R4172		ERD10TJ223	22K	1	
R4173		ERD10TJ682	6.8K	1	
R4174-4178		ERD10TJ223	22K	5	
R4179		ERD10TJ333	33K	1	
R4180		ERD10TJ4R7	4.7	1	
R4181		ERD10TJ333	33K	1	
R4182		ERD10TJ4R7	4.7	1	
R4183		ERD10TJ102	1K	1	
R4184		ERD10TJ821	820	1	
R4185		ERD10TJ103	10K	1	
R4186		ERD10TJ152	1.5K	1	
R4190		ERD25TJ103	1/4W 10K	1	
			Capacitors		
C3501		ECEA1CS100	Electrolytic 16V 10	1	
C3502		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3503,3504		ECKF1H101KB	Ceramic 50V 100P	2	
C3505		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3506		ECQP1473GZW		1	
C3507,3508		ECQM1H822KZ	Mylar 50V 0.0082	2	
C3509		ECQM1H822JZ	Mylar 50V 0.0082	1	
C3510		ECQM1H153JZ	Mylar 50V 0.015	1	
C3511		ECQM1H822JZ	Mylar 50V 0.0082	1	
C3512		ECQM1H822KZ	Mylar 50V 0.0082	1	
C3513		ECKF1H103ZF	Ceramic 50V 0.01	1	
C3514		ECQM1H682KZ	Mylar 50V 0.0068	1	
C3515		ECQM1H392KZ	Mylar 50V 0.0039	1	
C3517		ECQM1H332KZ	Mylar 50V 0.0033	1	
C4001		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C4002		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4003		ECKF1H681KB	Ceramic 50V 680P	1	
C4004		ECEA1AS330	Electrolytic 10V 33	1	
C4005		ECKF1H102KB	Ceramic 50V 0.001	1	
C4007		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C4008		ECEA1CS100	Electrolytic 16V 10	1	
C4010		ECQM1H823KV	Mylar 50V 0.082	1	
C4011		ECEA1CS330	Electrolytic 16V 33	1	
C4012		ECQM1H273KZ	Mylar 50V 0.027	1	
C4013		ECEA1HS010	Electrolytic 50V 1	1	
C4014		ECEA1CS220	Electrolytic 16V 22	1	
C4015,4016		ECEA1CS100	Electrolytic 16V 10	2	
C4017		ECKF1H391KB	Ceramic 50V 390P	1	
C4018		ECEA1AS101	Electrolytic 10V 100	1	
C4019		ECQM1H472KZ	Mylar 50V 0.0047	1	
C4020		ECEA1CS100	Electrolytic 16V 10	1	
C4021		ECQM1H273KZ	Mylar 50V 0.027	1	
C4023		ECQV05104JB	50V 0.1	1	
C4024		ECEA1CS100	Electrolytic 16V 10	1	
C4025		ECKF1H102KB	Ceramic 50V 0.001	1	
C4026		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4027		ECQM1H4562KZ	Mylar 50V 0.0056	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C4028		ECEA1CS100	Electrolytic 16V 10	1	
C4029		ECEA1HS010	Electrolytic 50V 1	1	
C4030		ECQM1H822KZ	Mylar 50V 0.0082	1	
C4031		ECQM1H473KV	Mylar 50V 0.047	1	
C4032		ECEA1CS100	Electrolytic 16V 10	1	
C4033-4036		ECEA1CS101	Electrolytic 16V 100	4	
C4037		ECEA1CS470	Electrolytic 16V 47	1	
C4038		ECEA1CS100	Electrolytic 16V 10	1	
C4039		ECKF1H471KB	Ceramic 50V 470P	1	
C4040		ECEA25M4R7	Electrolytic 4.7	1	
C4041		ECKF1H102KB	Ceramic 50V 0.001	1	
C4042		ECEA10M47	Electrolytic	1	
C4045		ECQM1H273KZ	Mylar 50V 0.027	1	
C4047		ECEA50ZR68	Electrolytic 50V 0.68	1	
C4048		ECEA50ZR22	Electrolytic 50V 0.22	1	
C4049		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C4050		ECEA50ZR1	Electrolytic 50V 0.1	1	
C4051		ECEA1CS470	Electrolytic 16V 47	1	
C4052		ECEA50ZR68	Electrolytic 50V 0.68	1	
C4053		ECEA1HS010	Electrolytic 50V 1	1	
C4054		ECEA1CS100	Electrolytic 16V 10	1	
C4055		ECEA0JS101	Electrolytic 6.3V 100	1	
C4056		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C4057		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4058		ECKF1H681KB	Ceramic 50V 680P	1	
C4059		ECEA1AS330	Electrolytic 10V 33	1	
C4060		ECKF1H102KB	Ceramic 50V 0.001	1	
C4062		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C4063		ECEA1CS100	Electrolytic 16V 10	1	
C4065		ECQM1H823KV	Mylar 50V 0.082	1	
C4066		ECEA1CS330	Electrolytic 16V 33	1	
C4067		ECQM1H273KZ	Mylar 50V 0.027	1	
C4068		ECEA1HS010	Electrolytic 50V 1	1	
C4069		ECEA1CS220	Electrolytic 16V 22	1	
C4070,4071		ECEA1CS100	Electrolytic 16V 10	2	
C4072		ECKF1H391KB	Ceramic 50V 390P	1	
C4073		ECEA1AS101	Electrolytic 10V 100	1	
C4074		ECQM1H472KZ	Mylar 50V 0.0047	1	
C4075		ECEA1CS100	Electrolytic 16V 10	1	
C4076		ECQM1H273KZ	Mylar 50V 0.027	1	
C4077		ECQV05334JZ	50V 0.33	1	
C4079		ECEA1CS100	Electrolytic 16V 10	1	
C4080		ECKF1H102KB	Ceramic 50V 0.001	1	
C4081		ECEA1HS3R3	Electrolytic 50V 3.3	1	
C4082		ECQM1H562KZ	Mylar 50V 0.0056	1	
C4083		ECEA1CS100	Electrolytic 16V 10	1	
C4084		ECEA1HS010	Electrolytic 50V 1	1	
C4085		ECQM1H822KZ	Mylar 50V 0.0082	1	
C4086		ECQM1H473KV	Mylar 50V 0.047	1	
C4087		ECEA1CS100	Electrolytic 16V 10	1	
C4088		ECEA1CS101	Electrolytic 16V 100	1	
C4089		ECEA1CS220	Electrolytic 16V 22	1	
C4090		ECEA1CS100	Electrolytic 16V 10	1	
C4091		ECKF1H471KB	Ceramic 50V 470P	1	
C4092		ECEA25M4R7	Electrolytic 4.7	1	
C4093		ECKF1H102KB	Ceramic 50V 0.001	1	
C4094		ECEA10M47	Electrolytic 47	1	
C4097		ECQM1H273KZ	Mylar 50V 0.027	1	
C4099		ECEA50ZR68	Electrolytic 50V 0.68	1	
C4100		ECEA50ZR22	Electrolytic 50V 0.22	1	
C4101		ECEA1HS2R2	Electrolytic 50V 2.2	1	
C4102		ECEA50ZR1	Electrolytic 50V 0.1	1	
C4103		ECEA1CS470	Electrolytic 16V 47	1	
C4104		ECEA50ZR68	Electrolytic 50V 0.68	1	
C4105		ECEA1HS010	Electrolytic 50V 1	1	
C4106		ECEA1CS100	Electrolytic 16V 10	1	
C4107		ECEA0JS101	Electrolytic 6.3V 100	1	
C4108		ECEA1CS101	Electrolytic 16V 100	1	
C4109		ECEA1CS100	Electrolytic 16V 10	1	
C4110		ECEA1CS330	Electrolytic 16V 33	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
C4111-4115		ECEA1CS100	Electrolytic 16V 10	5	
C4116		ECEA0JS101	Electrolytic 6.3V 100	1	
C4117		ECQM1H103KZ	Mylar 50V 0.01	1	
C4118		ECQM1H333KS	Mylar 50V 0.033	1	
C4119		ECQM1H103KZ	Mylar 50V 0.01	1	
C4120		ECQM1H333KS	Mylar 50V 0.033	1	
C4121,4122		ECEA1HS3R3	Electrolytic 50V 3.3	2	
C4123		ECQM1H223KZ	Mylar 50V 0.022	1	
C4124		ECQV05334JZ	50V 0.33	1	
C4125		ECQM1H103KZ	Mylar 50V 0.01	1	
C4126		ECQF6102KZ		1	
C4127		ECKF1H181KB	Ceramic 50V 180P	1	
C4128		ECCF1H330KC	Ceramic 50V 33P	1	
C4129,4130		VCV0001		2	
C4131		ECEA1CS470	Electrolytic 16V 47	1	
			Coils		
L4001		VLQFS07L472K		1	
L4002		VLF0116		1	
L4003,4004		VLQFS07L472K		2	
L4005		VLF0116		1	
L4006		VLQFS07L472K		1	
L4008,4009		VLT0119		2	
			Connectors		
P3501,3502		VJP1147		2	
P4001		VJP1144		1	
P4002		VJP1142		1	
P4003		VJP1144		1	
P4004		VJP1142		1	
P4005		VJP1147		1	
P4006		VJP1141		1	
P4007		VJP1144		1	
P4008,4009		VJP1143		2	
			Miscellaneous		
T4001		VLT0118		1	
T4002		VLT0054		1	
K4001,4002		VSY1011	Relays	2	
TP3501-3506		VJH0096Z	Check Terminals	6	
TP3508,3509		VJH0096Z	Check Terminals	2	
TP4001-4006		VJH0096Z	Check Terminals	6	
TP4008,4009		VJH0096Z	Check Terminals	2	
GNDx2		VJH0096Z	Check Terminals	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP03142A	V-Dancing Comp (II)		
			P.C. Board		
			Integrated Circuits		
IC3701		µPD4081BC		1	
IC3702		µPD4013BC		1	
			Transistors		
Q3701-3708		2SD636		8	
			Diodes		
D3701		RD6.8EB	Zener	1	
D3702-3705		MA165		4	
			Resistors		
R3701		ERD10TJ102	1K	1	
R3702		ERD10TJ104	100K	1	
R3703,3704		ERD10TJ563	56K	2	
R3705		ERD10TJ273	27K	1	
R3706		ERD10TJ473	47K	1	
R3707		EVM38GA00B55	Variable 500K	1	
R3708		ERD10TJ563	56K	1	
R3709		ERD10TJ273	27K	1	
R3710		ERD10TJ104	100K	1	
R3711		EVM38GA00B55	Variable 500K	1	
R3712		ERD10TJ563	56K	1	
R3713		ERD10TJ273	27K	1	
R3714		ERD10TJ563	56K	1	
R3715		ERD10TJ273	27K	1	
R3716		ERD10TJ473	47K	1	
R3717		EVM38GA00B55	Variable 500K	1	
R3718		ERD10TJ563	56K	1	
R3719		ERD10TJ273	27K	1	
R3720		ERD10TJ104	100K	1	
R3721		EVM38GA00B55	Variable 500K	1	
R3722		ERD10TJ563	56K	1	
R3723		ERD10TJ273	27K	1	
R3724-3729		ERD10TJ104	100K	6	
R3730		ERD10TJ563	56K	1	
R3731		ERD10TJ273	27K	1	
R3732		ERD10TJ104	100K	1	
			Capacitors		
C3701		ECEA1CN100	Electrolytic 16V 10	1	
C3702,3703		ECQM1H103KZ	Mylar 50V 0.01	2	
C3704,3705		ECQM1H102KZ	Mylar 50V 0.001	2	
C3706,3707		ECQM1H103KZ	Mylar 50V 0.01	2	
			Connectors		
P3701		VJP1148	2P	1	
P3702		VJP1150	5P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VEP06160A	Operation (I) P.C. Board		
			Integrated Circuits		
IC6301		MN1400EY		1	
IC6302		µPD4066BC		1	
			Transistors		
Q6301-6309		2SD636		9	(P,Q,R)
			Diodes		
D6301-6311		MA165		11	
D6312-6319		LN81RCPHL		8	
D6320-6327		MA165		8	
D6328		LN81RCPHL		1	
D6329,6330		MA165		2	
			Resistors		
R6301		EVJLDAK15B15	Variable 100K	1	Ⓝ
R6303,6304		ERD10TJ333	33K	2	
R6305		ERD10TJ821	820	1	
R6306-6315		ERD10TJ333	33K	10	
R6316		ERD10TJ101	100	1	
R6317,6318		ERD10TJ223	22K	2	
R6319		ERD10TJ102	1K	1	
R6320		EVNK6AA00B24	Variable 20K	1	
R6321		ERD10TJ223	22K	1	
R6323		ERD10TJ332	3.3K	1	
R6324		ERD10TJ682	6.8K	1	
R6325		ERD10TJ123	12K	1	
R6326		ERD10TJ273	27K	1	
R6327		ERD10TJ122	1.2K	1	
R6328		ERD10TJ271	270	1	
R6329		ERD10TJ561	560	1	
R6330		ERD10TJ271	270	1	
R6331		ERD10TJ103	10K	1	
R6332		ERD10TJ682	6.8K	1	
			Capacitors		
C6301		ECEB1CS100	Electrolytic 16V 10	1	
C6302		ECEB0JS470	Electrolytic 6.3V 47	1	
C6303		ECEB1ES4R7	Electrolytic 25V 4.7	1	
C6304		ECKF1H103ZF	Ceramic 50V 0.01	1	
C6305		ECCF1H221KU	Ceramic 50V 220P	1	
C6306		ECEB1CS100	Electrolytic 16V. 10	1	
C6307		ECEA0JS470	Electrolytic 6.3V 47	1	
			Connectors		
P6301		VJP1154		1	
P6302		VJP1147		1	
P6303		VJP1152		1	
P6304		VJP1150		1	
P6305		VJP1149		1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Resistor Array		
RX6301		EXBP84223K		1	
			Switches		
SW6301-6311		EVQPXR04K		11	
SW6312		ESD14143B		1	
			Test Terminals		
TP6301		VJH24		1	
GND		VJH24		1	
		VEP00885A1	Input Jack P.C. Board		
			Transistors		
Q1551-1554		2SD636		4	(P,Q,R)
Q1555		2SD639		1	(P,Q,R)
Q1556		2SB669		1	(P,Q,R)
Q1557,1558		2SD636		2	(P,Q,R)
			Diodes		
D1550-1557		MA165		8	
			Resistors		
R1550		ERD10TJ471	470	1	
R1551,1552		ERD10TJ750	75	2	
R1553,1554		ERD10TJ223	22K	2	
R1555		ERD10TJ562	5.6K	1	
R1556,1557		ERD10TJ223	22K	2	
R1558-1560		ERD10TJ562	5.6K	3	
R1561,1562		ERD10TJ473	47K	2	
R1563,1564		ERD10TJ273	27K	2	
R1565,1566		ERD10TJ153	15K	2	
R1567		ERD10TJ273	27K	1	
R1568		ERG12ANJ182P	Metal Oxide 1W 1.8K	1	
R1569		ERD10TJ103	10K	1	
R1570,1571		ERD10TJ223	22K	2	
R1572		ERD10TJ104	100K	1	
R1573-1575		ERD10TJ223	22K	3	
R1576		ERD10TJ104	100K	1	
R1577		ERD10TJ273	27K	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C1550		ECEA1HS010	Electrolytic 50V 1	1	
C1551		ECKF1H271KB	Ceramic 50V 270P	1	
S1550		VSS0059	Switch	1	🅝
			Connectors		
P1550		VJP1147	12P	1	
P1551-1553		VJP1145	8P	3	
				1	
			Miscellaneous		
		VJH0204	Input Jacks	1	
		VEK1349	CAMERA Connector 10P	1	
		VJB0480A	Audio Output Select		
			P.C. Board		
			Resistors		
R4301,4302		ERD10TJ222	2.2K	2	
R4303,4304		ERD10TJ391	390	2	
P4301		VJP1147	Connector 12P	1	
S4301-4304		ESB62287	Switch Units	1	🅝
		VEP00723B	Tuner Adaptor Connection		
			P.C. Board		
			Resistors		
R1507		ERD10TJ122	1.2K	1	
R1508		ERD10TJ392	3.9K	1	
			Connectors		
P1507		VJP1152	8P	1	
P1508		VJP1150	5P	1	
J1502		VJS1225	13P	1	🅝

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VJB00895	Output Jack P.C. Board		
			Resistors		
R1504		ERD25TJ750	1/4W 75	1	
R1510,1511		ERD25TJ391	1/4W 390	2	
			Connectors		
P1504		VJP1148	2P	1	
P1505		VJP1150	5P	1	
		VJH0205	Output Jacks	1	🅝
		VJB00717	Power TR Connection C.B.		
			Transistors		
Q1501		2SA1062		1	🅝 ⚠
Q1502		2SC1983		1	⚠
		VJB00717	Regulator IC Connector C.B.		
IC1501		μPC78M05H	5V Reg. IC	1	
P1510		VJP1149	Connector 3P	1	
		VJB00750	System Control Power TR Connection C.B.		
Q1505		2SD886		1	🅝
		VJB00715	Speed Control VR C.B.		
R1501		EVH189F25B54	Variable 50K	1	🅝
P1520		VJP1153	Connector 10P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VJB00716	Power SW P.C.B.		
S1501		ESB62565	Switch Units	1	🅝
P1506		VJP1150	Connector 5P	1	
		VJB00720	Inter Connection P.C.B.		
P1509		VJP1145	8P	1	
P1516		VJP1141	2P	1	
P1517		VJP1143	5P	1	
P1519		VJP1142	3P	1	
P1521		VJP1145	8P	1	
P1522		VJP1143	5P	1	
P1523		VJP1143	5P	1	
		VJH24	Check Terminal	2	
		VJB00725	Cassette Up P.C.B.		
P1514		VJP1153	Connector 10P	1	
		VJB00724	Gold Capacitor & Antenna Connection P.C.B.		
C1501,1502		EECW6E105	Electrolytic 6V 1	2	🅝
P1502		VJP1143	Connector 5P	1	
P1503		VJP1141	Connector 2P	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VJB00721	Cylinder Connection P.C.B.		
P001		VJP1147	12P	1	
P003		VJP1141	2P	1	
P1511		VJP1141	2P	1	
P1512		VJP1147	12P	1	
		VJB00722	Reel Sensor P.C.B.		
IC1502-1504		DN6838A	Hall IC	3	Ⓝ
		VJB00727	Micro SW (I) P.C.B.		
S1508		VSM0027	Micro SW	1	
		VJB00728	Micro SW (II) P.C.B.		
S1509		VSM0027	Micro SW	1	
		VJB00525	Safety Tab SW P.C. Board		
S1502		VSM0027	Micro SW	1	
		VJB00729	Slow Tracking VR P.C.B.		
R6302		EVH189F25B54	Variable 50Kx2	1	Ⓝ

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
		VJB00636	Takeup Photo TR P.C.B.		
Q1504		PN150NV	Photo TR	1	
C1504		ECKF1H120KB	Ceramic 50V 12P	1	
		VJB00744	Supply Photo TR P.C.B.		
Q1503		PN150NV	Photo TR	1	
C1503		ECKF1H120KB	Ceramic 50V 12P	1	
		VJB00700	A/C, AE Head P.C.B.		
R6319,6320		ERD10TJ100	Resistor 10	2	
		VJP1143	Connector 5P	1	
		VSQ0237	Infrared Remote Controller C.B. (Receiver)		
			Integrated Circuit		
IC6601		AN5020		1	
			Transistor		
Q6601		2SD636		1	2SD637 (R,S)
			Diodes		
D6601		PH313		1	(or PH302)
D6602		MA165		1	(or MA161, MA162, 1SS53, 1SS54, 1SS55)
			Resistors		
R6601		ERD10TJ272	2.7K	1	
R6602		ERD10TJ154	150K	1	
R6603		ERTD2ZHK104S	Thermister 100K	1	
R6604		ERD10TJ151	150	1	
R6605		ERD10TJ101	100	1	
R6606		EVNK6AA00B13	Variable 1K	1	
R6607,6608		ERD10TJ681	680	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
R6609		ERD10TJ151	150	1	
			Capacitors		
C6601		ECEA1HK2R2	Electrolytic 50V 2.2	1	
C6602		ECEF1H681KB	Ceramic 50V 680P	1	
C6603,6604		ECEA1HK0R1	Electrolytic 50V 0.1	2	
C6605		ECEA1CK100	Electrolytic 16V 10	1	
C6606		ECKF1H102KB	Ceramic 50V 0.001	1	
C6607		ECEA1HS010	Electrolytic 50V 1	1	
C6608		ECQP1332JZW	0.0033	1	
C6609		ECEA50ZR47	Electrolytic 50V 0.47	1	
C6610		ECEA1CK101	Electrolytic 16V 100	1	
C6611		ECKF1H101KB	Ceramic 50V 0.01	1	
			Miscellaneous		
P6601		VJP1142	3P	1	
		VSC0686	Shield Case	1	
		VSC0687	Shield Case	1	
		VSQ0227	Infrared Remote		
			Controller (Transmitter)		
			Integrated Circuits		
IC1001		MN6027B		1	
			Transistors		
Q1		2SD636		1	2SD637 (Q,R)
Q2		2SD638		1	2SD639 (R,S)
Q3		2SB641		1	2SB642 (Q,R)
			Diodes		
D1001,1002		SE303A	Infrared LED	2	
					(or LN66)
D1003		MA150		1	
					(or 1SS53)
D1004		LN230RA	LED	1	
			Resistors		
R1001		ERD25TJ332	1/4W 3.3K	1	
R1002		ERD25TJ470	1/4W 47	1	
R1003		ERD25TJ223	1/4W 22K	1	
R1004		ERD25TJ1R0	1/4W 1	1	
R1005		ERD25TJ221	1/4W 220	1	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C1001,1002		ECKF1H101KB	Ceramic 50V 100P	2	
C1004		ECEA1HKR47	Electrolytic 50V 0.47	1	
C1005		ECEA0JS101	Electrolytic 3V 100	1	
					(or ECEA0JK101)
X1001		CSB455EB1	Ceramic OSC	1	
					(or KBR-455BT1)
		ENC16252A	RF Converter		
			Integrated Circuits		
IC1		SN76870N		1	
IC2		AN6390		1	
			Diode		
D1		1SS85		1	
			Resistors		
R1		ERD25VJ393	1/4W 39K	1	
R2		ERD10TJ820	82	1	
R3		ERD10TJ681	680	1	
R4		ERD10TJ820	82	1	
R5		ERD10TJ101	100	1	
R6		ERD10TJ750	75	1	
R7		ERD10TJ181	180	1	
R8		ERD10TJ332	3.3K	1	
R10,11		ERD10TJ822	8.2K	2	
R12		ERD10TJ103	10K	1	
R13		ERD25FJ390	1/4W 39	1	
R14		ERD10TJ102	1K	1	
			Variable Resistors		
VR1		9PNXB15	100K	1	
VR1,2		9PNXB23	2K	2	

Ref. No.		Part No.	Part Name & Description	Pcs / Set	Remarks
			Capacitors		
C1		ECQM1H182KZ	Mylar 50V 1800P	1	
C2		ECEA1ES4R7	Electrolytic 25V 4.7	1	
C3		ECCF1H330K	Ceramic 50V 33P	1	
C4		ECCF1H121K	Ceramic 50V 120P	1	
C5		ECCF1H181K	Ceramic 50V 180P	1	
C6		ECCF1H470K	Ceramic 50V 47P	1	
C7		ECCF1H680KC	Ceramic 50V 68P	1	
C8		ECCF1H560KC	Ceramic 50V 56P	1	
C9		ECCF1H820KT	Ceramic 50V 82P	1	
C10		ECCF1H680KU	Ceramic 50V 68P	1	
C11		ECCF1H680K	Ceramic 50V 68P	1	
C12		ECCF1H680KC	Ceramic 50V 68P	1	
C13		ECCF1H102PF	Ceramic 50V 1000P	1	
C14		ECCF1H150K	Ceramic 50V 15P	1	
C15		VCY25473M	Semiconductor 25V 0.047	1	
C16		ECCF1H330K	Ceramic 50V 33P	1	
C17,18		ECKF1H222PF	Ceramic 50V 2200P	2	
C19		ECEA1AS330	Electrolytic 10V 33	1	
C21		ECEA1AS101	Electrolytic 10V 100	1	
C22		ECCF1H101K	Ceramic 50V 100P	1	
C23		ECKF1H222PF	Ceramic 50V 2200P	1	
C24		ECCF1H100C	Ceramic 50V 10P	1	
C25,26		ECKF1H222PF	Ceramic 50V 2200P	2	
C27		ECCF1H390KC	Ceramic 50V 39P	1	
C28		ECKF1H222PF	Ceramic 50V 2200P	1	
C29		ECCF1H101K	Ceramic 50V 100P	1	
C31		ECEA1AS101	Electrolytic 10V 100	1	
C32		CXZ102PF	Disc 500V 1000P	1	
C33		ECCF1H102PF	Ceramic 50V 1000P	1	
C34		ECEA1HS010	Electrolytic 50V 1	1	
C35		ECKF1H223PF	Ceramic 50V 0.022	1	
C36		ECCF1H330K	Ceramic 50V 33P	1	
C37		VCY25473M	Semiconductor 25V 0.047	1	
C38,39		ECCF1H102PF	Ceramic 50V 1000P	2	
C40,41		T05X103M	Semiconductor 50V 0.01	2	
C42		ECCF1H102K	Ceramic 50V 1000P	1	
VC1		MCV50D1H100	Trimmer 10P	1	
			Coils		
L1		LP504006		1	
L2		LP404206		1	
L3		LP404006		1	
L4		FL3H4R7M	4.7μH	1	
L5		VLQ0015	8.2μH	1	
			Transformers		
T1		VLT0323		1	
T2		VLT0322		1	
T3		VLT0321		1	
T4		VLT0320		1	
			Miscellaneous		
X1			Crystal 61.25/67.25MHz	1	
SW1		HSW052501020	Switch	1	
P1		VJP1143	5P	1	